

# OUTSTANDING

# FEATURES

Now **ALL** combined in  
**ONE** Refrigerator

# GIBSON

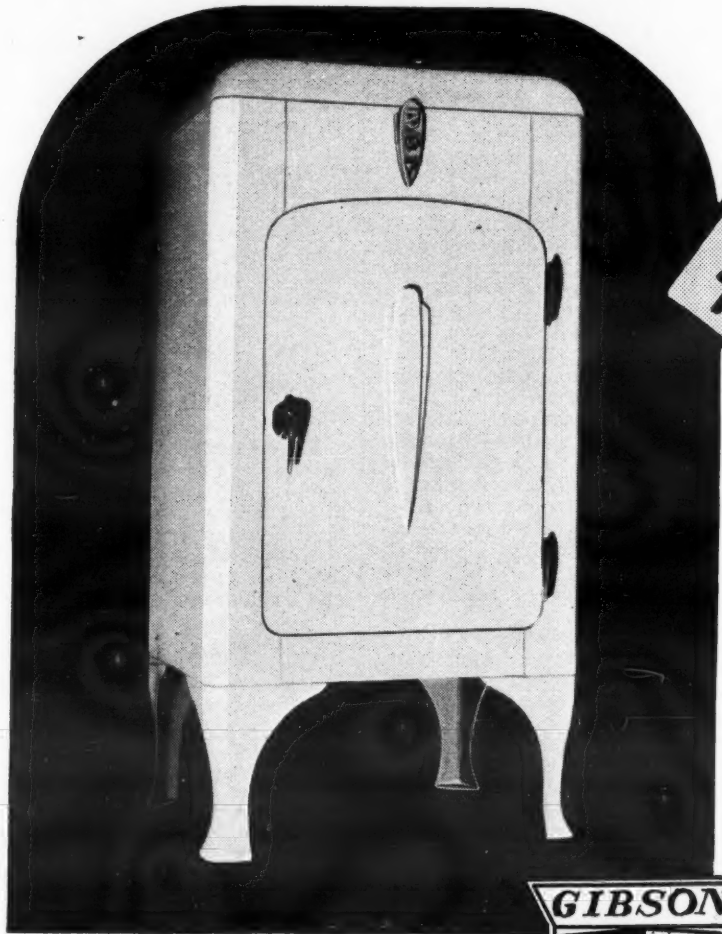
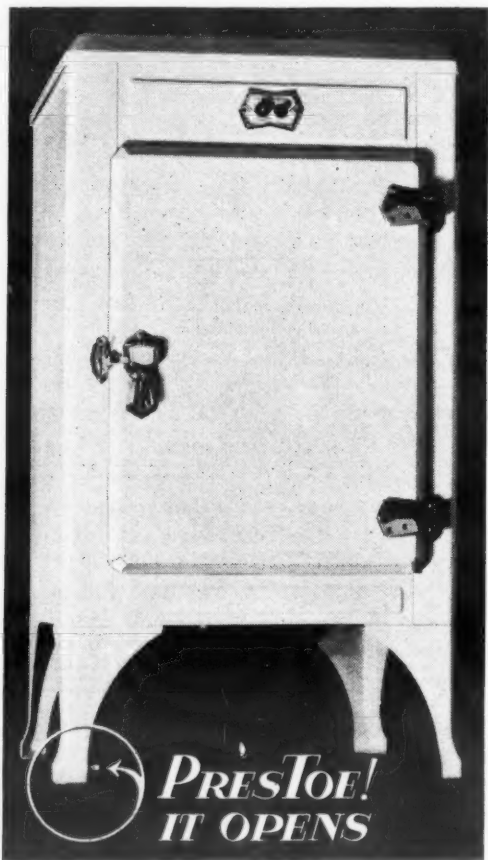
*Matchless Beauty*

*Two Cylinder  
Compressor*

*Hermetically  
Sealed Unit*

*PresToe!  
Door Opener*

*12 Point  
Temperature  
Control*



**NEW SERIES "L"**

The new Gibson series "L" is a definite forward step in low cost refrigeration. Stream line design, flush fitting, curve top door, embossed door panel and semi concealed hardware. Two models of 5.35 cu. ft. and 7.10 cu. ft. capacity. Priced to meet the keenest competition.



**STANDARD SERIES "H"**

New models and new features have been added to this line. Six models range from 5.76 cu. ft. to 14.8 cu. ft. capacity. *New 13" legs raise food compartments to knee height.* Standard equipment includes a front section lift-out shelf, butter and egg tray, dome light, adjustable shelf (Pat. Pending), door lock and keys, 12 point temperature control and the "PresToe" foot pedal door opener.

There are no finer refrigerators built than the moderately priced, Gibson Series "H".

## KEROUNIT

Absorption Type  
Kerosene Burning

Simple, safe and inexpensive. Watch for complete details and KeroUnit announcement. Three popular sizes—5, 6½, and 8 cu. ft.

**New Beauty**

**New Models**

**New Improvements**

**New Low Prices**

Gibson swings into 1933 with the greatest array of sales-getting features it has ever offered. A new

standard of values is set. And Gibson has set it!

Look at the complete Gibson line! Flashing beauty, sales features galore, refinements and innovations and new low prices. "Action" is a dominant Gibson trait! Go places with Gibson in 1933! Write your Gibson distributor or direct to the factory for complete details.

**GIBSON ELECTRIC REFRIGERATOR CORPORATION**  
Greenville, Michigan

Export Sales Dept.  
201 N. Wells St.  
Chicago, Ill., U. S. A.

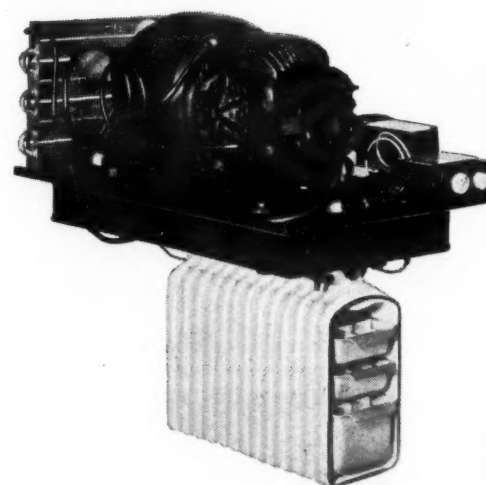
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## MONOUNIT POWER

**All Models  
Hermetically  
Sealed**

**Porcelain  
Evaporator**



We believe the Gibson 1933 Line to be the only complete electric refrigerator line equipped with

two cylinder, hermetically sealed compressor. The MonoUnit requires but half the space—weighs approximately half as much as ordinary units. Direct piston drive. Smooth, powerful and quiet. 1-5 H.P. motor.

New 12 point temperature control. The defrosting position permits the unit to cycle frequently enough to maintain safe food temperatures should the user forget to turn the arrow back to normal position.

*No Adjusting or Testing Necessary Before  
Making Delivery to Customer*

# GIBSON

THE MOST Beautiful REFRIGERATOR IN THE WORLD



# REFRIGERATION NEWS

Registered U. S. Patent Office

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS.

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## NORGE STYLES CABINET, REFINES ROLLATOR

### POTTER EMPLOYS 3-ZONE SYSTEM IN ENTIRE LINE

Porcelain Shelves and 3-Way Door-Latch Are Featured

BUFFALO, Jan. 16.—Five models of two-compartment "Potter" refrigerators, beginning at \$167 delivered and installed anywhere in the United States, tax paid, comprise the entire 1933 line of the Tricold Refrigerator Corp. All models carry a one-year guarantee on cabinet and system.

Chief features of the new Potter refrigerators are single doors, each covering both food storage compartments, in the three smaller models; heavy porcelain shelves, and a three-way door-latch which opens in one position by pulling, in another by pushing or nudging, and is locked in a third.

Last year this company marketed a full line of Childlars conventional type electric refrigerators, and two Tricold models. Both these lines have been discontinued, although the Tricold two-compartment principle is employed in the new line of Potter refrigerators (named for the president of the company, T. Irving Potter).

Each Potter refrigerator has two food storage compartments. Lower compartment contains a conventional evaporator, the freezing chamber of which operates at 10° below zero, while a temperature of 10° above zero is maintained in the remainder of this lower (cold storage) compartment.

Upper and larger compartment is served by a finned tube type of evaporator (like those used in commercial refrigeration) which keeps the food storage compartment at a temperature of 40°. "Balanced humidity"

(Concluded on Page 4, Column 5)

### BRUNNER DESIGNS 3 GASOLINE MACHINES

UTICA, N. Y.—Three condensing units, powered by gasoline engines, have been added to the line of refrigerating machines made by Brunner Mfg. Co. of this city.

Largest of the new machines is driven by a 1½-hp. gasoline engine, while others are powered by 1-hp. and ¾-hp. engines, according to M. H. Pendergast of the Brunner refrigeration division. They were developed particularly for the milk cooling needs of the non-electric rural market, he states.

Each of the new gasoline-driven machines is air cooled, and incorporates standard Brunner compressor design. Model AT-7290-G, driven by a 1½-hp. engine, has two 2½x2-in. cylinders. Model AT-3360-G, driven by a 1-hp. engine, has two 1½x1-in. cylinders; while the smallest, model AT-2540-G, driven by a ¾-hp. engine, has two 1½x1-in. cylinders.

### Westinghouse 'Quota Busters' Awarded Bermuda Trip

MANSFIELD, Ohio, Jan. 17.—Fifty-one refrigerator salesmen, members of the "Inner Circle" of the Quota Busters club of the Westinghouse Electric & Mfg. Co., will sail Feb. 4 on the S.S. Pan-American, for Bermuda, as a reward for sales records during the past year, according to R. C. Cosgrove, manager of the refrigeration division.

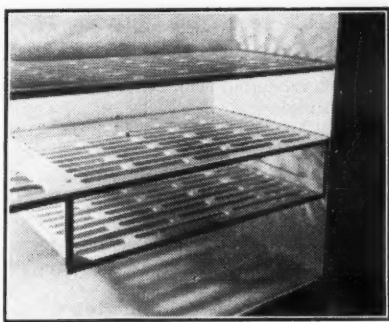
The company has decided to take all "Inner Circle" members on the trip, instead of the three highest in each district as in the past. The convention will be held on the boat instead of in Mansfield this year, states Mr. Cosgrove.

Sailing on Saturday, the group will arrive in Bermuda early Monday morning, Feb. 6. Two days will be spent on the islands. The return is scheduled for Wednesday afternoon, Feb. 8, and the arrival in New York City, Friday morning, Feb. 10.

A round-trip railroad ticket to New

### Public Utilities Answer Criticism by Dissolving N.E.L.A. and Forming New Edison Electric Institute

Porcelain Shelves



Heavy porcelain shelves are being used in Potter refrigerators.

### WESTINGHOUSE PLAN WILL 'USE THE USER'

MANSFIELD, Ohio, Jan. 18.—The "Owner's Club" plan, a sales promotion idea enabling Westinghouse refrigerator salesmen to obtain names of prospects through Westinghouse refrigerator owners, was introduced to refrigerator supervisors, wholesale jobbers' salesmen, and jobber representatives at a jobber's convention here Monday, yesterday, and today.

Nucleus of the plan is a booklet which the dealer personally presents to the owner of a Westinghouse refrigerator. With the booklet are five reward certificates on which the owner reports to the dealer the names and addresses of friends interested in electric refrigeration.

As the certificates are received by the dealer he makes out prospect cards for his file and acknowledges the receipt of the certificates with "Many Thanks" cards supplied by the company.

If the lead results in a sale, the owner is awarded a Westinghouse appliance. If two or more sales result from the owner's suggestion, he is given a choice of one or more appliances.

R. C. Cosgrove, manager of the re-

(Concluded on Page 4, Column 5)

### DEPARTMENT STORE MEN VIEW DISTRIBUTION COSTS

NEW YORK CITY, Jan. 17.—The cost of distribution as viewed by the economist, the manufacturer, and the retailer will be the subject of the general session tonight of the annual convention of the National Retail Dry Goods Association (national organization of department stores), which is being held at the Hotel Pennsylvania from Monday through Friday.

### VALERIUS ASKS CREDITORS TO ACCEPT 25% OF CLAIMS

JEFFERSON, Wis.—Directors of the Valerius Corp., manufacturer of soda fountains, at a meeting Jan. 8 decided that the company is no longer in a position to meet its obligations or to continue its operations.

The management is now making an effort to secure the consent of unsecured creditors representing an aggregate of 75 per cent of all unsecured claims against the company to a plan calling for the acceptance by the creditors of 25 per cent of their claims as full settlement. If the creditors assent to this plan, it is thought that the stockholders may raise enough money to effect such a settlement.

If the plan falls through, the Valerius Corp. will probably be forced to file a voluntary petition in bankruptcy.

W. S. von Meyer, formerly president of Valerius, is no longer with the company.

### PROPAGANDIZING ELIMINATED IN NEW PROGRAM

Cooperation with Public & Regulatory Bodies Pledged

NEW YORK CITY—National Electric Light Association is dead. It was killed here last week by a council of executives representing 85 per cent of the electric power central stations in the United States, in order to make room for the new non-propagandizing Edison Electric Institute, which these public utilities have just organized.

"The new institute is an answer to demands made by public utility leaders at the convention of the National Electric Light Association at Atlantic City last June, that the industry divest itself of all semblance of propaganda activities, that it assume an attitude of frankness and ready cooperation in

Western Union  
Jan. 13, 1933.

George Brown  
Electric Refrigeration Bureau  
420 Lexington Ave.  
New York, N. Y.

Please wire collect immediately how supplanting of National Electric Light Association by Edison Electric Institute will affect Electric Refrigeration Bureau and Electric Cookery Council.

GEORGE F. TAUBENECK,  
ELECTRIC REFRIGERATION NEWS.

Western Union  
Jan. 13, 1933.

George F. Taubeneck  
Electric Refrigeration News  
550 Maccabees Bldg., Detroit

Regret unable to give you any information at this time Stop Official statement will be issued next week.

G. N. BROWN.

its dealings with the public and with regulatory bodies, and that complete and frequent financial reports be made by all companies," states George B. Cortelyou, president of the Consolidated Gas Co.

In addition to attempting to eliminate practices causing criticism, the institute will effect economies, state the officers.

The National Electric Light Association had grown to such size that it was difficult to keep track of its manifold operations, and unnecessary expenses are constantly being incurred.

Cortelyou, who was the last president

(Concluded on Page 4, Column 1)

### Air Conditioning Will Be A. S. H. V. E. Topic

CINCINNATI — Several technical talks on subjects related to air conditioning are prominent on the program for the thirty-ninth annual convention of the American Society of Heating & Ventilating Engineers which opens for three days here next week, beginning Monday, Jan. 23. Meetings and headquarters for the convention will be at the Hotel Gibson.

The meeting will convene at 9:30 Monday morning with an expression of welcome by Mayor Russel Wilson of Cincinnati, introduced by K. A. Wright, president of the local chapter of the society. F. B. Rowley, national president of the society, will make the response.

Following the transaction of official business such as reports of officers, the council, and committees, two technical papers will be given: "A Study of the Application of Thermocouples to the Measurement of Wall Surface Temperatures," by A. P. Kratz and E. L. Broderick, and "Some Observations on Heating Practice," by James G. Govan. To conclude the morning

(Concluded on Page 5, Column 1)

### NEW REFRIGERATOR MOTORS ANNOUNCED

CLEVELAND—Two new capacitor motors for refrigerator service are being introduced by the Ohio Electric Motor Co. here. One is the capacitor-start type, the other is the capacitor-start-and-capacitor-run type. The motors are alike in dimensions, but somewhat different in performance, according to F. W. Jessop, president of the company.

The motors use a rubber and spring combination mounting, with the frame grounded electrically to the base in order to eliminate radio interference from static generated by the belt.

Bearings are of phosphor bronze, diamond bored at high speed, then

(Concluded on Page 12, Column 5)

### DETROIT MEN TO DISCUSS PERFORMANCE STANDARDS

DETROIT — "Performance Standards" will be discussed by members of the Detroit Section, American Society of Refrigerating Engineers, at its next monthly meeting, Jan. 30. John Wyllie, commercial engineer of Kelvinator Corp., will be chairman of the meeting. Speakers have not yet been announced.

### NORGE WASHER INTRODUCED AS COMPANION LINE

Rounded Corners Used In New Refrigerator Cabinet

By Elston D. Herron

MUSKEGON, Mich., Jan. 18.—A stylish new cabinet, refrigerated by a Rollator compressor with several design refinements, was shown to 209 distributors and distributors' salesmen who assembled at the Hotel Occidental here Monday for a three-day session of Norge Corp.'s annual convention.

Indicating a definite change in Norge's policy of being a one-product company was the introduction of a Norge washing machine. The washer is to be sold as companion merchandise by Norge dealers and distributors, and will be priced in the neighborhood of \$60, f.o.b. Muskegon.

Major Howard Blood, president of the company, unveiled the new refrigerator with the brief introduction, "Boys, here it is."

What "the boys" saw was a refrigerator with restrained modernity as its motive of cabinet design. The cabinet is streamlined, with rounded corners and edges rounded at the top.

It rests on a black base, with the legs almost flush with the sides of the cabinet. The nameplate is in the center of the base, which is also available in white.

Only a fraction of an inch separates doors of the compressor and food chambers, giving the front of the cabinet an appearance of evenness in keeping with the cabinet's streamline construction. End panels are of one-piece manufacture.

Hardware is of forged metal, the door latch being of the push-or-pull type.

Eight models will employ this type of cabinet, ranging in size from 5.17 cu. ft. to 11.05 cu. ft., net capacity. The smallest model and the 6-cu. ft. unit will be available in either lacquer or porcelain finish. All others are finished in porcelain.

In addition to this line, Major Blood presented two other models, a 4.4-cu. ft. refrigerator and a 6.62-cu. ft. unit, using cabinets of more conventional design, with which Norge Corp. will make a bid for the low-price market. All models will carry a one-year guarantee.

Prices of the two lines were not definitely announced at the convention, but John Knapp, vice president in charge of sales, stated that the price range will run from \$120, for the lowest-priced box, to \$400 for the largest of the standard line (all prices f.o.b. Muskegon).

Numerous changes have been made in the Rollator compressor, although the general principle of its operation remains unchanged. Improvements made in the unit, as outlined by Major Blood, are as follows:

The main flywheel bearing is now surrounded by cooling fins. The unit

(Concluded on Page 12, Column 1)

### Grunow Announces List Prices And Distributors of Line

CHICAGO—List prices on the three-model line of Grunow refrigerators will be \$127.50 for the 5-cu. ft. model, \$157.50 for the 6-cu. ft. unit, and \$167.50 for the 7-cu. ft. model, according to Duane Wanamaker, advertising manager of the Grunow Corp.

Companies which have been signed as Grunow distributors are as follows: Arnold Wholesale Corp., Cleveland; Benton-Bailey Co., Inc., Richmond, Va.; Benton-Bailey Co., Inc., Norfolk, Va.; Brown Supply Co., St. Louis; Buffalo Nipple & Machine Co., Buffalo; Cain Radio Co., Inc., Jacksonville, Fla.

F. B. Connelly Co., Billings, Mont.; F. B. Connelly Co., Seattle; H. R. Curtis Co., San Francisco; E. E. Forbes & Sons Piano Co., Birmingham, Ala.; Griffith-Victor Distributing Co., Indianapolis; Griffith-Victor Distributing Co., Cincinnati.

Griffith-Victor Distributing Co., Day-

ton; Harger & Blish Co., Des Moines, Iowa; Grunow Distributors, Inc., New York City; Vernon Maurer Co., Milwaukee; Moore, Bird & Co., Denver; North American Radio Corp., New York City; North Ward Radio Co., Newark.

F. D. Pitts Co., Boston; Radio Distributing Co., Detroit; Radio Equipment Co., Dallas, Tex.; Radio Sales Co., Memphis, Tenn.; Radio Specialty Corp., New Orleans; Roberts-Toledo Co., Toledo; Roskin Distributors, Albany, N. Y.; Roskin Distributors, Middletown, N. Y.

Roycraft Corp., Minneapolis; Schaffhauser-Kiley Corp., Philadelphia; Sides-Duda-Meyers Co., Omaha; Southern Radio Co., Charlotte, N. C.; Strevell-Patterson Hardware Co., Salt Lake City; Tracy Wells Co., Columbus, Ohio; and Watson & Wilson, Inc., Los Angeles.



## BY GEORGE F. TAUBENECK ---

### Public Utility Merchandising

Central stations played a minor role in the electric refrigeration merchandising drama in 1932 for the first time since the industry made its debut. One reason was fear of regulatory legislation.

In the spring of 1931, bills to prohibit public utility merchandising were introduced in a number of state legislatures almost simultaneously. The campaign, led in each state by associations of retail merchants, seemed too well timed and coordinated to have happened accidentally.

It caught power company executives off guard. Before they could get their lines out, anti-utility legislation had been passed in Kansas and Oklahoma, and central station men were given good scores by several other state general assemblies.

Under the leadership of President Kelly of The Fair, Chicago department store, a joint committee of the National Electric Light Association and the National Retail Dry Goods Association was formed to work out a set of merchandising principles and a code of ethics. Aggrieved and aggressive department store representatives apparently gained several yards in this diplomatic exchange of punts.

In 1932, organized retail merchants made few overt attempts to force passage of prohibitive legislation against their rivals. But they used this club as a threat. So effective was the threat that utility merchandising in 1932 ebbed unusually low.

Although utilities in general did "lie low" in '32 because of agitation aroused in 1931 against their merchandising activities, their merchandising retrenchment was caused in large part by general business conditions.

Shrinkage in stock values, and other depression manifestations, put many utility holding companies in a jam. They had to call on their properties, the operating companies, for help.

Thus it was that central stations which had been doing a good merchandising job found themselves without funds to buy display stocks of refrigerators, to promote their sale, to hire and train salesmen, or to finance time payment purchases.

For the most part, purchases of electric refrigerators by power companies in 1932 were of the hand-to-mouth variety.

Parenthetically, it might be noted that appliance sales are said to have fallen off badly in Oklahoma and Kansas since those states legislated against public utility merchandising; also that newspapers in those states, missing central station advertising, are campaigning for a repeal of the prohibitory statutes.

### Department Stores

Looming large in the merchandising set-up of 1932 were department stores. Even though some observers feel that department stores received attention from executives far out of proportion to their actual sales volume, it is true that their influence was a dominant one in the shaping of most manufacturers' policies and programs.

New manufacturers and department stores clicked well: the new manufacturers secured an outlet through department stores direct to the public, thus doing away with the expense and difficulties of setting up a distributing organization (also advertising and promotion); and the department stores found among the newer manufacturers a readiness to comply with their demands for a below-\$100 electric refrigerator.

Small dealers had increasing difficulty in financing time payments, whereas the department stores could finance their own instalment paper. Location favored department stores, as well as store traffic, reputation, appeal to women, and consistent buying.

Yet the common department store formula—acquire a job lot, cut the price, advertise that price in newspapers, move a quantity in a short space of time, and then close the deal—worked a hardship on regular dealers who could not offer such a low price on their merchandise.

Private brand refrigerators came into being in 1932, manufactured expressly for department store merchandising by many of these new companies.

Noting the large quantity of private brand units being sold by new companies to department stores, several older manufacturers—led by Frigidaire Corp.—began selling their lowest-priced refrigerators, nameplateless and changed a bit in appearance, directly to department stores.

A glance at numerous department store activities during 1932 is given in these items:

In January, R. H. Macy & Co. began selling its own line of refrigerators in colors. On May 7, Houghton & Dutton,

Boston department store, reported 468 refrigerator sales in 12 hours.

Late in May, Kelvinator Corp. established a special department to handle department store business. In June, Chicago's Marshall Field & Co. took on the Leonard refrigerator line.

Apex-Rotorex Corp. established a department store division in July, with WILBUR D. DAVIS at its head. Early in September, Detroit's Commerce Pattern & Foundry Co. announced that 2,800 Commerce refrigerators had been sold to department stores since January.

Marshall Field & Co. took on the U. S. Hermetic refrigerator line in September. Early in November, Crowley-Milner Co., Detroit department store, offered Copeland refrigerators for \$99.95.

In the same month, General Electric announced its "controlled sales plan" for selling household appliances through department stores, and in December, Copeland Products, Inc., established a department store division.

Under the terms of the G. E. "controlled sales plan," distributors place units in department stores on consignment, furnish floor and follow-up salesmen, and handle service. The department stores earn their commissions by providing good display and floor space, advertising regularly, and financing time paper.

### Air Conditioning

Manufacturers of air-conditioning equipment took definite strides ahead in 1932, in both development and sales activities. Although sales of air-conditioning equipment were hindered by general business conditions, a relatively large number of sizable installations were made, and the companies which began producing this type of equipment were many.

Some idea of activity in the field of air conditioning during 1932 may be had from this resume of events in the industry:

In January, the Atchison, Topeka, and Santa Fe Railroad equipped 10 diners on transcontinental trains with Carrier air-conditioning systems employing steam as the refrigerating energy, and water as the sole refrigerating medium.

Same month, Frigidaire Corp. introduced a line of unit air conditioners for commercial and household installation. When the joint A.S.R.E.-A.S.H.V.E. convention was held in Cleveland in January, air conditioning was the subject of much consideration. Frigidaire's new air-conditioning equipment was displayed during the convention.

Conditioned Air Corp. was organized in Detroit early in February to install residential air-conditioning systems, and the new company announced its Airco central air-conditioning system.

Carrier Research Laboratories introduced, in March, a new humidifying device to work in conjunction with household radiator heating systems. A cooling-and-heating system, operating on the reversed refrigeration cycle, was installed in Los Angeles' Southern California Edison Co. building about that time.

Racine's Young Radiator Co. announced a line of unit coolers, the American Radiator Co. introduced its "Cascade" humidifiers, and the A. C. Gilbert Co., New Haven, Conn., toy manufacturer, brought out a line of electric humidifiers.

A three-day course in air conditioning was given by authorities in the field at the Case School of Applied Science in Cleveland, March 17, 18, and 19.

Late in the same month, York Ice Machinery Corp. announced an individual all-electric air-conditioning and refrigerating system for railroad passenger cars, using storage batteries for motive power and F-12 as the refrigerant.

Michigan State College of Agriculture and Applied Sciences gave a three-day short course in air conditioning and forced warm air heating in March.

Dall Steel Products Co., Lansing, Mich., announced a new air washer and blower for residences. On March 23, Carrier Engineering Corp. gave a demonstration of uses of the steam ejector system of air conditioning for retail store installations.

In April, York Ice Machinery Corp. introduced a new line of unit air coolers for ceiling suspension, and Carrier Engineering Corp. was given the contract for installation of air-conditioning systems in the two theaters under construction in Rockefeller Center, New York City.

Under the direction of JOE DONOVAN organization of an air-conditioning department was instituted in April by the General Electric Co. Its first product was an oil-burning furnace with humidifying device.

First completely air-conditioned train

to be run by the Chesapeake & Ohio Railroad took its maiden trip April 24.

Following month, Carrier Engineering Corp. announced that it had licensed the Canadian Blower and Forge Co. in Kitchener, Ont., to make air-conditioning systems for sale in Canada.

First week in May Frigidaire Corp. started full time production of air-conditioning equipment for domestic and commercial use. Later the same month, Toledo's Swartzbaugh Mfg. Co. introduced the "Klenzair" portable air-washing fan, and Carrier Research Laboratories announced a portable air-cooling unit using melting ice as the cooling medium.

Engineers of Carrier Corp. on June 27 demonstrated to a group of radio and refrigeration distributors that certain types of air-conditioning equipment had been developed to the point where they could be sold by specialty merchandising outlets. Carrier also put out on test several of its railroad car pre-coolers, which used melting ice as the refrigerating medium.

By the middle of the summer all dining cars of the Union Pacific Railroad, and all cars on Illinois Central trains running between Chicago and St. Louis, were equipped with air-conditioning systems. Westinghouse systems were used in 10 of the I. C. cars.

During the week of June 25 to July 2, 200 Frigidaire dealers gave demonstrations of air-conditioning systems. About that time the Chicago Pump Co. introduced the "Northern-Breeze" ice room coolers, and the McCord Radiator & Mfg. Co. announced a new overhead air-cooling unit. American Blower Co. began production of unit air-conditioning systems, in addition to its central type unit.

July was a big month for air conditioning. Here is some of the news it produced:

A two-week air-conditioning show was held by the Commonwealth Edison Co., Chicago. During the show it was announced that sales of air-conditioning systems by members of the

### What Happened In 1932

This is the second installment of Editor Taubeneck's running story of the eventful year 1932 in the refrigeration industry.

In the next issue this story will be concluded with a summary of developments in commercial refrigeration, quick freezing, refrigerated transportation, companion merchandise, patents, home service, and advertising and sales promotion.

Refrigeration Division of N.E.L.A. for the first six months of 1932 were 222 per cent of sales for all of 1931.

L. J. Mueller Co., Milwaukee began production of the "Climator II" unit for heating, cleaning, circulating, and humidifying the air. Williamson Heater Co. of Cincinnati announced that its air conditioners, originally built to heat, ventilate, clean, and humidify air, could now be equipped to cool and dehumidify the air.

National Korecraft Sales Co. of Chicago, made plans to extend its line of air-conditioning equipment. Fairbanks, Morse & Co. announced a line of motors and generators made especially for air-conditioning systems on railroad passenger cars.

Edwards Mfg. Co., Cincinnati, introduced the Hot-Kold central heating system to clean, heat, humidify, and circulate air in residences. In August, plans were made public for an extensive air-conditioning exhibit at the World's Fair in Chicago this year.

Servel engineers announced a new cooling cabinet for domestic and commercial use. George Bright and his associates completed design of a portable ice cooler for the Ohio Galvanizing & Mfg. Co.

Campbell Metal Window Corp. of New York City began manufacture of equipment to perform not only the six usual functions of air conditioning, but also to eliminate noise from rooms in which it is installed.

Cleveland's Corozone Co. introduced its DeLuxe Aquazone air conditioner. Lewis Air Conditioners, Inc., Minneapolis, revealed that its Humitrol was being used by 40 manufacturers of air-conditioning equipment.

H. J. Somers, Inc., of Detroit placed on the market a humidistat, a portable ice cooler for railway dining cars, and an automatic humidifier and air washer.

In August, Westinghouse Electric & Mfg. Co. announced establishment of an entirely new department to handle engineering, development, and sales of air-conditioning equipment. Later in

the year, the Buffalo Forge Co. introduced a portable ice room cooler.

Domestic Industries, Inc., manufacturer of Buckeye refrigerators, took over distribution of Aquazone portable air conditioners in November.

Frigidaire Corp. announced its entrance into the field of air-conditioning equipment for railroad cars, Dec. 14.

Also in December, Rutgers University, New Jersey's state university at New Brunswick, N. J., announced a home-study course in air conditioning. Air-conditioning apparatus was given prominent display at the tenth National Exposition of Power and Mechanical Engineering in New York City during the first week of December.

Late in the month, Westinghouse Electric & Mfg. Co. placed a new portable electric humidifier on the market.

### Movements of Men

Changes by the score took place in the personnel of refrigeration companies during 1932. Following is a brief chronology of important promotions, retirements, and resignations which were noted by ELECTRIC REFRIGERATION NEWS during the year:

CARL D. TAYLOR resigned in January as manager of the refrigeration division of Westinghouse, and C. B. GRAVES took his place. H. W. NEWELL, formerly manager of Frigidaire Sales Corp. of New England, succeeded J. A. HARLAN as Frigidaire vice president in charge of sales. Mr. Harlan joined Kelvinator, succeeding J. M. FERNALD, a month later. Mr. Fernald then went to General Refrigeration Co., and from there to Baker Ice Machine Co.

J. A. STERLING left the Maytag Washing Machine Co. to become sales promotion manager of Norge Corp. R. G. NELSON was appointed national service manager of Norge Corp. D. C. ROADS became Norge's advertising manager.

M. F. MAHONY became manager of the merchandising division of the General Electric refrigeration department in February.

CHARLES STRAWN was made sales manager of Stewart-Warner's new refrigeration division in March. MAJOR HOWARD E. BLOOD was, on March 25, elected first vice president of Borg-Warner Corp.

Late in March, ROYAL GARD became export manager for Domestic Industries, Inc.'s Buckeye refrigerator division, and A. R. JOHNSON was appointed sales promotion manager of the refrigeration division of Grigsby-Grunow Co. BERNARD F. WEADOCK became managing director of N.E.L.A.

In April, WILLIAM ROBERT WILSON retired as general manager of the Reo Motor Car Co. in order to devote more time to Copeland. CHARLES VAN MAANEN became oil burner sales manager for Kelvinator, following the latter's purchase of assets and patents of Detroit's Maise Corp.

J. J. DONOVAN became manager of G. E.'s new air-conditioning department in April, and FRENCH E. DENISON was made chief of small machine design for York Ice Machinery Corp.

HOMER H. HARDY left his position as assistant foreign manager of Frigidaire Corp. to become export manager of the Trupur Mfg. Co. in May; GEORGE D. KOBICK was appointed manager of the apartment house division of G. E.'s refrigeration department.

A. H. REINACH and V. J. MCINTYRE became managers of Kelvinator Corp.'s national business department and department store division, respectively. ALEXANDER JAGER took the presidency of Beloit's Taylor Freezer Corp., and GLEN W. HALL became vice president.

Late in May, EARLE E. MERRETT joined the Briggs Mfg. Co. here as sales engineer for the company's new refrigerator cabinet division. R. C. COSGROVE was advanced from the commercial salesmanship to the head of Westinghouse's refrigeration division. C. B. GRAVES, whom Cosgrove succeeded, was transferred to Chicago to take charge of sales there.

WILBERT H. CAMPBELL left the Filtrine Mfg. Co. to become vice president in charge of sales for J. H. McCormick & Co., Williamsport, Pa., maker of Airtrol air conditioners. GEORGE F. OXLEY resigned as director of information and service at N.E.L.A.

In June, GEORGE B. CORTELYOU was elected president of N.E.L.A. GEORGE B. RIDDLE was appointed assistant director of sales promotion for Gibson Electric Refrigerator Corp. JOHN J. TYNDAL was made vice president of Taylor Freezer Corp.

The same month, HERSHEL F. POWELL, PAUL SCHELL, and J. M. JOHANN joined the engineering staff of the Gibson Electric Refrigerator Co.

ALBERT M. TAYLOR became merchandising director for the Leonard Refrigerator Co. July 1, and VANCE C. WOODCOX, already Kelvinator sales promotion manager, succeeded Mr. Taylor as director of advertising for Kelvinator.

ALBERT JACKS left the Chrysler

Motor Car Co. to become superintendent of the Gibson cabinet division. FRANK V. GOODMAN was employed as general sales manager of the refrigeration division of Domestic Industries, Inc.

ROGER E. WILLIAMS became president of the D. A. Ebinger Sanitary Mfg. Co., Columbus, Ohio, following the resignation of D. H. EBINGER from that position. F. J. HEER became chairman of the board, and EDMUND FOX succeeded Mr. Heer as vice president and treasurer. G. S. MCKEE was appointed vice president and works manager.

A. F. MCCORMICK, in July, was appointed sales manager of the Grinnell Washing Machine Corp., in charge of Grinnell refrigerator and Laundry Queen washing machine sales. LOWELL MCCUTCHEON was made manager of Chicago's Frigidaire Sales Corp. in July.

WILBUR D. DAVIS became manager of Apex-Rotorex Corp.'s department store sales division. J. S. TRITLE was elected vice president in charge of operations of the Westinghouse Electric Supply Co.

Early in August, GEORGE M. DWELLEY, at one time sales manager of Kelvinator Corp., was appointed sales manager of the Jewett Refrigerator Co., Buffalo. E. J. DALTON was made general manager of the General Refrigeration Co. of Beloit, Wis.

M. W. THOMPSON resigned as assistant advertising manager of Grigsby-Grunow Co. C. I. FORCE became credit manager of Gibson Electric Refrigerator Corp. On Aug. 16, LOUIS RUTHENBURG, then president of Copeland Products, Inc., was reelected chairman of the refrigeration division of Nema.

PAUL H. DOW was named district representative of the central district for the General Electric Co. JOHN K. KNIGHTON left Frigidaire Corp. to become assistant director of sales of the new electrical appliance division of the Mengel Body Co. of Louisville.

In September, B. E. YANCEY was appointed president of the Larkin Refrigeration Corp., Atlanta, when the position was vacated by the retirement of V. P. WARREN.

F. H. PIERCE was promoted to the sales management of Frigidaire Corp. B. J. VANDOREN was boosted to the head of Frigidaire's wholesale commercial division, and R. B. AMBROSE was made manager of the company's retail commercial division.

A. N. WILLIS and S. E. MEYERS were made assistant treasurers of Refrigeration Discount Corp., a subsidiary of Kelvinator Corp. E. H. MCCARTHY joined the sales organization of Gibson Electric Refrigerator Corp. as midwest division manager.

LOUIS RUTHENBURG announced his resignation Sept. 26, as president and general manager of Copeland Products, Inc. WILLIAM ROBERT WILSON, chairman of the board, was made president of the organization a few days later.

J. S. TRITLE of Westinghouse Electric & Mfg. Co. was named president of Nema at the association's annual meeting late in September.

In October, S. E. MEYERS was appointed manager of the credit department of the Kelvinator factory branch in New York City. A. H. BAER left the sales management of the Frick Co. to become vice president of the Carbondale Machine Co., Carbondale, Pa.

In November, W. C. A. BICKHAM was appointed general sales manager of Domestic Industries, Inc., and RAYMOND RING, formerly with Dry-Zero Corp., was appointed manager of the contract department of Grigsby-Grunow Co.

H. F. LEHMAN was made commercial sales manager of Frigidaire Corp., and H. S. TURNER succeeded Mr. Lehman as service manager. F. M. MCCARTHY followed Mr. Turner as assistant service manager.

On Nov. 29, COL. FRANK E. SMITH announced that he would retire as president of Servel, Inc., and subsidiary companies on Dec. 1, but that he would continue as a director in all of the companies and would act as special consultant to the management.

HENRY C. BONFIG was appointed sales manager of the Grunow Corp. late in November. JOHN F. DITZELL was named assistant vice president in complete charge of the refrigeration division of Grigsby-Grunow Co., W. G. PIERCE was made assistant vice president in charge of the radio division, and R. C. ROLTING, assistant vice president in charge of production.

In December, R. E. ROBILARD was appointed railway contact representative in charge of Frigidaire's new railway air-conditioning division.

At the annual winter convention of A.S.R.E. in New York City in December, GLENN MUFFLY retired as president of the society and was succeeded by A. W. OAKLEY of the Merchants Refrigerating Co., New York City.

GEORGE L. BRUNNER of the Brunner Mfg. Co., New York City, was unanimously reelected president of the Motor and Equipment Manufacturers Association. C. E. ALLEN, formerly commercial vice president, was made southwestern district manager of Westinghouse Electric & Mfg. Co.



# An Open Letter of GREAT IMPORT to the ENTIRE REFRIGERATION Industry



R. E. OLDS

It is only natural that the engineering genius of Mr. Olds which played such an important part in pioneering and developing America's greatest industry, should be irresistibly attracted to another mechanical development of such major importance as electrical refrigeration.

## To the MANUFACTURERS and USERS of Refrigeration Equipment:

There is no doubt that developments in the field of mechanical refrigeration will play an important part in the industrial history of the next few years. It is one of the few major industries in which it is reasonable to expect that unusual progress will be made.

Recognizing the sound opportunities which exist in this field, the writer has been a close student of significant developments. The results of scores of inventive efforts have been studied sympathetically and at considerable length. Each new offering has been carefully analyzed in terms of manufacturing practicability, increased efficiency and lowered consumer expense.

From a highly critical viewpoint in which all factors were conservatively evaluated, the new KOLD-HOLD System of storing refrigeration was found to be a logical and needed advance over existing developments. Prolonged scientific tests have proved the system to be sound from an engineering standpoint, and by far the most inexpensive and efficient means of refrigeration for numerous purposes. In truck bodies, for example, this new system eliminates power take-off, gas engine, and all troublesome parts. It reduces weight to the very minimum and requires no loading or unloading. It provides a means for maintaining any predetermined temperature for 15 hours or more without operating the compressor. It is most reliable.

The system is also very advantageously adaptable to cabinets and storage boxes of various kinds. It operates with any reliable mechanical unit, and is easily installed in any type of body, cabinet or box.

The writer predicts that the KOLD-HOLD System will play an increasingly important role in the field of mechanical refrigeration, and suggests every one identified with this field either as manufacturer or user to post himself on its advantages.

(Signed) *R. E. Olds*

# KOLD-HOLD

MANUFACTURING COMPANY  
LANSING, MICHIGAN

Insure Your Pay Loads  
with **KOLD-HOLD**



## Utilities Organize Edison Institute to Supplant N.E.L.A.

(Concluded from Page 1, Column 3)  
dent of the National Electric Light Association, has been elected president of the new institute. William J. Hagenah of Chicago, vice president of the Byllesby Engineering Corp., will act as vice president; Bernard F. Weadock, executive secretary; and Edward Reynolds, Jr., treasurer. All of these officers were holding similar positions in the National Electric Light Association.

Announcement of the new institute was made at the office of the Niagara Hudson Power Corp. B. C. Cobb, chairman of the Commonwealth & Southern Co.; Floyd L. Carlisle, chairman of the Niagara Hudson Power Corp.; and Mr. Cortelyou were present.

N.E.L.A. was at one time a strictly statistical and trade organization. Of late it has become involved in politics, and Samuel Insull, and his brother Martin are credited with having brought this about.

In August, 1931, when United Gas Improvement Co., Public Service Co. of New Jersey, and Philadelphia Electric Co. withdrew their memberships from the association, it was generally believed that their retirement was a protest against the reported efforts of the Insull interests to dominate the association.

At that time it was pointed out that the Insulls were attempting to draw N.E.L.A. into politics against the express desire of the majority of the membership, especially eastern companies.

The withdrawing companies were "Morgan" interests, and the rumor persisted that "Morgan was after Insull" until the Insull structure collapsed.

The constitution of Edison Electric

Institute, in which the purposes of the association are explained, follows:  
Article I, Name—The name of this association shall be the "Edison Electric Institute."

Article II, Objects—The objects of the institute shall be:

1. The advancement in the public service of the art of producing, transmitting, and distributing electricity, and the promotion of scientific research in such field.  
2. The ascertainment and making available to the members and the public of factual information, data, and statistics relating to the electric industry.

3. To aid its operating company members to generate and sell electric energy at the lowest possible price commensurate with safe and adequate service, giving due regard to the interests of consumer, investor, and employee.

Article III, Membership—Sec. 1. There shall be four classes of members:

A. Operating company members, being operating electrical corporations engaged, in the generation, transmission, or distribution of electricity to the public.

B. Holding company members, being corporations which by virtue of their ownership of securities are interested in advancing the business of operating electrical companies in relation to the sale of electricity to the ultimate consumer.  
The term "company members" as used in this constitution shall apply equally to operating and holding company members unless otherwise specified.

C. Individual members who shall be officers or employees of company members.

D. Honorary members.  
Sec. 2. The president annually, subject to the approval of the board of trustees, shall appoint a membership committee consisting of five members. Applications for company membership subsequent to April 1, 1933, shall be referred to this committee, whose decision upon such applications when approved by the board of trustees shall be final. Any company or individual becoming a member of the institute shall waive all rights to any assets of the institute upon the termination of membership therein, either by voluntary withdrawal or

expulsion. Each applicant company shall furnish to the membership committee such information with reference to its organization, properties, financial structure, affiliations, and business practices as may be required by the membership committee, from time to time.

Sec. 3. Individual members shall be officers or employees of company members elected by the membership committee and continued from year to year upon the written approval of the company member with which such individuals are connected.

Sec. 4. Honorary members shall be those who on account of their standing or qualifications in the opinion of the board of trustees and by its election are entitled to such honor. They shall have all the privileges of individual members, except the right to hold office.

Sec. 5. The membership committee, subject to the approval of the board of trustees and in accordance with resolutions which such board may from time to time adopt, shall have jurisdiction and authority to consider and investigate the business practices of any company member and to expel, suspend, or take any other disciplinary action against any member guilty of a violation of proper or ethical business practices, or for failure to furnish information as required herein. Companies by virtue of becoming members of this institute shall be deemed to have consented to the right of the institute to impose such disciplinary action.

### Business Principles

Article IV, Business Principles—Sec. 1. The company members shall from time to time and not less than annually publish financial statements, including balance sheets showing gross and net income, operating expenses and surplus accounts, which statements shall be certified to by independent firms of certified public accountants who shall have audited the books of the company.

Sec. 2. All statements and data furnished to consumers, stock exchanges, and stockholders; all information designed for public dissemination and all reports to governmental authorities shall be accurate and clearly indicate their source.

Sec. 3. All contracts between any member companies which involve the furnishing of management, supervisory, purchasing, construction, engineering, or financing services to operating electric utility companies shall be so drawn and so operate in practice that the charges to the oper-

ating company shall be reasonable and commensurate with the value of the services rendered and the fair cost thereof to the company furnishing the services.

Sec. 4. Company members from time to time shall answer such questionnaires relative to their organization, financing, methods of operation and business practices as may be requested by resolution of the board of trustees.

Articles V, Dues—Sec. 1. The annual dues of all classes of members shall be paid to the treasurer. They shall be in such amount and in accordance with such terms of collection as shall be fixed from time to time by the board of trustees.

### Board of Trustees

Article VI, Board of Trustees—Sec. 1. The affairs of the institute shall be governed by a board of not less than seven nor more than twenty-four trustees elected for a term of three years. This board shall be comprised initially of the following: William Chamberlain, B. C. Cobb, F. L. Carlisle, Alex Dow, George N. Tidd, John E. Zimmermann, Philip G. Gosler, to serve until the close of the annual convention in the year 1934, and C. E. Groesbeck, W. C. Baylies, Frank D. Comerford, Samuel Ferguson, George H. Howard, George O. Muhlfeld, Harry Bauer, to serve until the close of the annual convention in the year 1935, and George B. Cortelyou, Edwin Gruhl, F. Hockenbeamer, Thomas N. McCarter, John J. O'Brien, H. Hobart Porter, Herbert A. Wagner, James Simpson, to serve until the close of the annual convention in the year 1936. The board of trustees may from time to time enlarge the membership thereof up to but not exceeding 24, and designate the term not exceeding three years which such additional members shall serve. Upon any vacancy occurring by creation of additional members of the board, death, or resignation of a trustee, the trustees then in office shall fill such vacancy for the unexpired portion of the term.

Sec. 2. There shall be appointed by the president annually, with the approval of the board of trustees, an operating committee consisting of the president, the vice presidents, and 11 other members, who shall have charge of the general activities and business of the institute, subject to the jurisdiction of the board of trustees. The president shall serve as chairman of this committee. The operating committee shall from time to time determine what other committees shall be created and define the scope of their authority. The members of such committees shall be appointed by the president.

Sec. 3. The trustees at their first regular meeting following the annual convention shall elect for a term of one year all officers, and shall have power to fill vacancies caused by death, resignation, disability, or otherwise, or to remove any officer for good cause.

Sec. 4. The president, subject to the approval of the board of trustees, prior to the annual convention shall designate a nominating committee consisting of five members to make nominations at the convention, to fill vacancies in the board of trustees occurring by reason of the expiration of term.

### Officers of Association

Article VII, Officers—Sec. 1. The officers of the institute shall be a president, one or more vice presidents, a treasurer, and an executive secretary, who after the first year shall be members of the institute but need not be members of the board of trustees.

Sec. 2.—The president shall preside at all meetings of the institute and perform such other duties as may be provided for by the board of trustees.

Sec. 3.—The executive secretary shall be appointed by the board of trustees. Subject to such limitations as may be imposed by the operating committee he shall exercise general supervision and control of the routine activities of the institute and shall have supervision over the employees, including their employment and discharge.

Sec. 4. The treasurer shall perform the duties assigned to him by the board of trustees. Subject to its approval he shall furnish a surety bond in such sum and with such terms as the board of trustees may prescribe from time to time.

### Annual Convention in June

Article VIII, Annual Convention—Sec. 1. Annual convention of the institute shall be held in June of each year in such place and on such dates as the operating committee may designate, provided, however, that the committee upon notice to all members on or before May 15 of any year may fix any other date for said annual convention.

Sec. 2. Twenty company members shall constitute a quorum for the transaction of business.

Sec. 3.—At the annual convention there shall be elected trustees for a term of three years to fill vacancies caused by the expiration of term.

Sec. 4.—The right to vote on all matters shall be solely by company members. Voting by proxy shall not be allowed.

Article IX, Permanent Office—Sec. 1. The permanent office of the institute shall be located in the city of New York.

Article X, Special Meetings—Sec. 1. Special meetings of the institute may be held upon the authority of the board of trustees at any time, upon 30 days' notice to every company member, stating the date and place of such meeting and the business to be transacted.

Article XI, Amendments—Sec. 1. Amendments to the constitution may be adopted from time to time upon the recommendation of the board of trustees. A two-thirds vote of the company members present at either a special or annual meeting of the institute shall be necessary for the adoption of any amendment.

### Manufacturers Pledge Financial Support To Bureau

OMAHA—Because a sufficient number of contributions and pledges have been made by electric refrigeration manufacturers, the Electric Refrigeration Bureau will be continued another year, according to James E. Davidson, chairman of the executive committee of the bureau.

In briefly outlining the bureau's gen-

eral plan for 1933, Mr. Davidson stated that the nation-wide cooperative program for the promotion of electric refrigerator sales, which has been conducted since the bureau's formation in 1931, would be carried on with the organization intact.

A campaign of continuous activity has been worked out for the entire year and will be announced in detail as soon as it has been formally approved by the executive committee, reports Mr. Davidson.

"While no program of national advertising is contemplated at present, plans for advertising in various trade papers have been worked out, and February insertions are ready now in anticipation of sales activity in March," says Mr. Davidson.

"The most important and most needed work for the bureau for the coming year is to increase the number of local bureaus, and strengthen local cooperation in towns where bureaus already exist. To accomplish this, activity of the field men will be increased."

## 'POTTER' LINE USES TWO COMPARTMENTS

(Concluded from Page 1, Column 1)  
is claimed for this upper "air-conditioned" food compartment. The finned tube evaporator is located at the upper rear of the compartment, and subtracts scarcely any food storage space from the box.

Both evaporators are operated by the same compressor.

Cubic content of Potter refrigerators will not be presented, dealers quoting square feet of shelf area only. On that basis, the five Potter models list as follows:

9 sq. ft.—\$167.
10.73 sq. ft.—\$254.
13.4 sq. ft.—\$319.
16 sq. ft.—\$397.
19.25 sq. ft.—\$474.

All prices include tax, installation, and delivery and freight charges to any point in the United States.

Every model has an automatic interior light.

It is not necessary to defrost the Potter refrigerator. Because of the three different temperatures maintained in different compartments of the refrigerator, no temperature regulator is used. Necessity for a vegetable pan is eliminated by the fin-coil evaporator in the larger compartment, which reduces dehydration.

Aluminum shelves will be optional equipment on the four largest models, and standard equipment on the smallest job.

"Practically every meal served in the United States is cooked either in aluminum or in porcelain receptacles," states President Potter, "and both aluminum and porcelain have their special adherents among housewives. So we give 'em a choice between the two."

An element of style is lent by the door, the top of which has a gentle tombstone curve, and by the hardware, which is matched. At a distance of 10 feet or more from the refrigerator, the door latch looks almost exactly like the hinges (the handle blends in with the lines of the fixture).

Chief refinement of the 1933 line is the use of a single door to close both compartments in the three smaller models.

Cabinets are furnished by Rex, compressors by Universal Cooler, Howell capacitor motors, and Balsam Wool insulation are specified for all models. Shipments will be made from Detroit, where the complete refrigerators will be assembled in the Universal Cooler plant.

## WESTINGHOUSE DEVELOPS PLAN TO GET PROSPECTS

(Concluded from Page 1, Column 2)  
frigeration division, was in charge of the meeting. Other Westinghouse executives who took an active part include: S. H. Pittman, merchandise advertising manager; J. W. McNair, manager of record and procedure; and Edna I. Sparkman, refrigeration home economist.

Roger Bolln, Paul Endriss, R. R. Lynch, P. C. Wilmore, and J. R. Clemens, all of the Westinghouse organization, also participated. In addition to the Westinghouse officials, representatives of Fuller and Smith and Ross, Inc., advertising agency, were present and explained the 1933 advertising program.

Sales promotion aids, in addition to the "Owner's Club" literature, which were presented at the three-day session, include: A canvasser's book; a folder, "The Engineer's Story"; gilded playing cards; contract bridge table cover guides; built-in watchman demonstrators; "Cold Cooking," a recipe book issued monthly; watchman disc cards; and a refrigerator sales kit.

Sales contests for 1933, national newspaper and magazine advertising, radio advertising, publicity, window display service, outdoor advertising, and plans for the Quota Busters' trip to Bermuda were also discussed.

# Ruined..

## by Prices and Discounts

**H**UNDREDS of electric refrigeration dealers have been wiped out in the past year. What ruined them?

Check up. You may be surprised to learn that almost invariably the contributing cause was either prices or discounts.

Too late, these merchants learned that they could not sell enough refrigerators to pay their overhead when prices were too high. . . .

Or that service and complaints more than wiped out their profit on the cheap, flimsy refrigerators. . . .

Or that their dollar profit on short-profit refrigerators was so hopelessly small that they could not build up a cash reserve—no matter how many they sold.

The shrewd, alert refrigeration merchants are today turning to Mayflower in constantly increasing numbers because—

1. The Mayflower is built by a company

with a 13-year record of success that is unsurpassed for economical operation and trouble-free service.

2. This quality line is priced at popular competitive prices—yet offers extra size, extra features, extra quality which make each model a super-value.

3. It offers merchants discounts which insure a worthwhile profit. Even the price leader pays you a handsome profit.

The new Mayflower line for 1933 offers many brilliant new features and conveniences plus matchless beauty which make it the outstanding line of 1933.

If you want a just profit to show for your selling efforts in 1933 . . . if you want satisfied customers . . . if you want a complete line priced in tune with today's ideas of thrift . . . then investigate Mayflower. Write, wire or phone now for full details.

TRUPAR MANUFACTURING COMPANY  
Dayton Ohio



# MAYFLOWER

## ELECTRIC REFRIGERATION



## AIR CONDITIONING ON A.S.H.V.E. PROGRAM

(Concluded from Page 1, Column 4)

session, Prof. G. L. Larson will give a report of the committee on research.

At 12:30 o'clock Monday, lady delegates to the convention will hold a luncheon, and at 2 o'clock in the afternoon a ladies bridge and tea is scheduled.

The second technical session opens at 2 o'clock, with a paper on "Air Supply and Its Effect on Performance of Oil Burners and Heating Boilers" by L. E. Seeley, J. H. Powers, and E. J. Tavanlar. Concluding the afternoon's program will be a report of the committee on revision of the constitution and by-laws by W. T. Jones.

That night past presidents of the society will gather for a dinner, and at 7:30 p. m. delegates will convene for a discussion of the reports on revision of the constitution. The last event on the day's program is "A Night in Old Cincinnati" with entertainment, dancing, and a buffet supper at the Roof Garden of the Hotel Gibson.

Tuesday morning's business begins with a meeting of the nominating committee at 9 a. m., followed by a report of the Guide publication committee by D. S. Boyden.

First technical paper of the day will be "Cold Walls and Their Relation to the Feeling of Warmth" by F. C. Houghten and Paul McDermott. Next will be a "Study of Summer Cooling in the Research Residence at the University of Illinois" by A. P. Kratz and S. Konzo. Third paper on the morning program will be "Summer Cooling Operating Results in a Detroit Residence" by J. H. Walker and G. B. Helmrich.

Tuesday's social program for the ladies includes a sight-seeing tour at 10 a. m., a luncheon at 12:30 p. m., and a matinee theater party at 2 p. m.

The afternoon session of the convention starts at 2 o'clock with a report of the committee on chapter relations by E. K. Campbell. Technical papers will be "Corrosion in Air-Conditioning Equipment and Its Prevention" by R. M. Palmer; "Air Supply, Distribution, and Exhaust Systems" by S. R. Lewis; "Cow-Barn Ventilation" by A. J. Offner; and "Air Infiltration Through Steel Framed Windows" by D. O. Rusk, V. H. Cherry, and L. Boelter.

The society's annual banquet and dance will be held Tuesday night, beginning at 7 o'clock, at the Roof Garden of the Hotel Gibson.

Final meeting of the convention will start at 9:30 Wednesday morning. Two papers will be given, "Flow of Condensate and Air in Steam Heating Returns" by F. C. Houghten and Carl Gutberlet, and "Condensate and Air Return in Steam Heating Systems" by Mr. Houghten and J. L. Blackshaw.

Installation of new officers, consideration of new business, resolutions, and a luncheon meeting of the council conclude the convention.

## WESTINGHOUSE TO TAKE SALESMEN TO BERMUDA

(Concluded from Page 1, Column 2)

R. N. Snyder, E. H. Maher, Inc., Hempstead, L. I., N. Y.; F. J. McDonnell, Werco, Inc., Mt. Vernon, N. Y.; R. A. Dower, Connecticut Electric Refrigeration Co., New Haven, Conn.

Clark Harding, E. Alton Lawrence, and Frank Lynch, all of Electric Device Co., Springfield, Mass.; P. T. Smelzer, Treman, King & Co., Ithaca, N. Y.; H. R. Riley, Parks & Hull, Inc., Baltimore; J. L. Mullen, Van Zandt Supply Co., Huntington, W. Va.

L. E. Tomkins, Tomkins Refrigerator Co., Cleveland; H. G. Ratner, Greensburg Motor Co., Greensburg, Pa.; R. W. Badgero, Walz Hardware Co., Saginaw, Mich.; C. F. Harvey, and James Rigdon, both of Whitehill & Danforth, Pittsburgh.

Harry Meyerrose, Boggs & Buhl, Pittsburgh; R. S. Hill, Hill & Lersch, Pittsburgh; W. H. Reuter, Kaufman's, Pittsburgh; A. H. Frost, Household Appliance Co., Denver; Joe G. Lang and George Schultz, both of A. R. Lindberg Co., St. Louis.

W. O. Gamble, Fred R. Gamble, Inc., Dallas, Tex.; W. W. Drodgy, Houston Light and Power Co., Houston, Tex.; H. E. Arnold, Arnold Bros., Inc., Sacramento, Calif.; A. F. Kramer, Electric Construction Co., Fresno, Calif.

Maynard Stampfl, H. E. Saviers & Son, Inc., Reno, Nev.; L. D. Pulsifer and L. B. Wilhelm, both of King & Orput, Portland, Ore.; V. A. Nahl and Ted Loeper, both of the Hawaiian Electric Co., Honolulu.

Ray Kranz, Westinghouse Electric Supply Co., Chicago; Forest Dicks and Paul Rich, both of Rich & Co., Indianapolis; R. H. Puelicher, D. S. Stophlet, Inc., Madison, Wis.; Sol Lewis, Sol Lewis, Inc., Omaha; and J. C. Peterson, Westinghouse Electric & Supply Co., Indianapolis.

## LEONARD APPOINTS TWO NEW DISTRIBUTORS

DETROIT—Two midwestern concerns have been appointed distributors by the Leonard Refrigerator Co., according to R. I. Petrie, general sales manager.

The Mace-Ryer Co., Kansas City, Mo., is now concentrating on the Leonard line. The Blish-Mize & Silliman Hardware Co., Atchison, Kan., is the second appointment.



## Take the Bull by the Horns!

Reasons why business is hard to get are more numerous, more appealing, and brighter colored than ever before. But reasons why you can't sell will not make a dime for electric refrigerator salesmen, dealers or distributors this year. They never did in any year.

This year everyone in the industry who expects to have a successful season has got to take the bull by the horns and **sell** refrigerators no matter what are the reasons he can't. No mamby-pamby tactics, no hiding of heads in the sand, will get around the facts that must now be faced.

It'll be a tough year! A lot of names will be off the rolls by the end of December. But scattered through the roster will be those who will make money by recognizing what has always been fundamental in successful selling—a desirable product of quality at a fair price.

Almost everyone admits the superiority of Dry-Zero as refrigerator insulation. But many do not realize how much quality is lost by failure to use Dry-Zero. Nor yet how little Dry-Zero adds to the cost of manufacturing any refrigerator.

Exact tests clearly show what **permanent** per-

formance advantage Dry-Zero gives. Such tests have already been made in the famous Dry-Zero laboratory on many refrigerators. And Dry-Zero will be glad to make others for any manufacturer. As much as 40% improvement of the refrigerator's actual performance has been shown when Dry-Zero has replaced other makes of insulation.

Though Dry-Zero costs more than any other insulation, it is worth much more than its premium. At that, the additional material cost for Dry-Zero in a cabinet as compared to the cheapest temporary substitute is but 3 to 6 cents per inside cubic foot of food capacity.

It is such qualities of efficiency and dependability as Dry-Zero gives to a refrigerator that intelligent, hard-working salesmen can sell this year to Mr. and Mrs. Careful Buyer. It is such qualities in good refrigerators that are going to make 1933 a successful year for many manufacturers, distributors, dealers and salesmen.

Come on Industry, let's get the bull by the horns and dig our heels in!

Dry-Zero Corporation, Merchandise Mart, Chicago, Illinois  
Canadian Office, 687 Broadview Avenue, Toronto

THE MOST EFFICIENT  
COMMERCIAL INSULANT KNOWN

**DRY-ZERO**





# A Declaration

## OF POSITION ☆ POLICY ☆ PRODUCT

THE Tricold Refrigerator Corporation has selected the Electric Refrigeration News as the vehicle for this announcement, because of its outstanding character and because its circulation is so largely confined within the strict limits of the

trade. We believe that the policy, as shown by this advertisement, of bringing into the open before the trade, factors already known and discussed daily by every experienced man in the industry, to be a sound one.

If this frank message arouses your interest, you will want to read the complete, truth-revealing discussion of the subject, now on the press. A limited edition for executives and salesmen in the wholesale and retail divisions of the trade. If you desire a copy, please make your request at once to the Tricold Refrigerator Corporation, Buffalo N. Y.

ON February 24th, 1932, after over five years of experimentation, development, and home testing, the Tricold Refrigerator Corporation announced through the medium of a twenty-page advertisement in the "Electric Refrigeration News" an epoch-making advance in household refrigeration.

The reverberation of this announcement, which came as unexpectedly to the trade as a literal bombshell, echoed throughout the industry to its farthest corner, causing wonderment and consternation among the leaders. Was this unlooked-for arrival, within the very portals of the industry, a "flash in the pan," or was it sound and something to be reckoned with?

Conjectures regarding the product and the company behind it flew in confusion throughout the industry. Those with engineering knowledge recognized the basic soundness of the product and realized that while the engineers of the industry had been so busy with mere problems of production, a rank outsider had stolen a march on the technicians and had evolved a tremendous technical advancement.

This frank technical recognition of the soundness of this advanced step threw further confusion into the ranks of the sales and financial executives. Caught so unprepared, where was the answer to this new and unexpected competition to be found?

Coincident with the announcement of this epochal industrial advance came the long expected low-priced

refrigerator; but strangely enough, this too came through new concerns in the industry.

Those in executive positions, whose policies governed the affairs of the major companies, recognized these as serious problems indeed; and they had only one answer with which to meet them—PRICE.

On a certain day in March 1932, one of the big companies announced a drastic price cut. This was their desperate answer to the new situation which had arisen within the industry. Other executives in the larger competing companies promptly followed suit.

Then a pause was made while these executives watched with much concern for the next move of their new competitor; and when strangely enough, our company apparently failed to keep the pace set by the twenty-page advertisement, they gathered new hope and passed on the report that this new-comer to the field was indeed a "flash in the pan."

The officials of our company held their peace, and proceeded with their plans already five years in the making, without regard for the rest of the industry, except to quietly observe and further plan for the soundness of our position as a permanent part of the industry.

It has been our company's definite policy and purpose during this last year to move most carefully step by step to an advanced position from which the final citadels of trade could be stormed and definite leadership attained.

During this period of consolidation of resources and information, our company became the great unsolved mystery within the gates of the refrigerator industry. The flood of applications for distributorships received by us would have been gratifying even to the industry's largest producer. The great mystery was, "Why should the Tricold Refrigerator Corporation refuse so many of these applications when apparently it had merchandise to sell and was desirous of selling it?"

Today the mystery is removed. Our company takes its place squarely as an integral part of this industry with a leadership in its products beyond any possible question or controversy; also with a definite policy based on a sound capital position and business plans in full accord with American traditions of progress.

### Where Is The Industry Headed?

We wish to call the attention of the distributors and dealers engaged in this great business of refrigeration to the fact that the industry as a whole has offered nothing to offset our position except a price war. The essential lack of progress on the part of the entire industry stands ruthlessly exposed. Today the big producers within this industry must make a choice:

They must either continue to consort with the small and relatively unsound producers whose stock in trade is imitation at a price . . . or . . .

They must set their engineering talent to the development of new standards of household refrigeration beyond the ability of the imitators and builders of cheap merchandise to follow.

One road leads to the mere building of merchandise, marketing it on a basis of price competition with steadily reducing margins of profit for all concerned. The other road, for those who have the vision to follow, means progress and a fair share of the leadership in the industry with stabilized profits in proportion to progress.

The public has been thoroughly educated to the standards of merchandise as it has been produced, therefore for this class of merchandise only a merchandising appeal at a price remains.

In this matter of price, it is not sufficient for the leaders of the industry to hide behind the cloak of the depression. The inherent characteristics of the American people have suffered no fundamental change. They still believe in progress and they are willing to rally to the standards of manufacturers having the vision and capital to undertake further steps in the path of progress.

Many manufacturers within the industry have the capital. It now remains to be seen how many of these have the talent available; and above all, how many have the courage to back this talent for progress. That the public does not react to a mere cheapening of product is proven by the fact that since the advent of the low-priced cheapened merchandise, sales in both units and dollars have registered a decline instead of an advance.





Those who have the courage to face these facts must see that this road is the road to destruction. The American public has had its fill of mere cheapness, and is fast returning to basic principles—quality and progress. Therein lies genuine profit and opportunity for progressive manufacturers and their distributors and dealers.

Time was when refrigerator manufacturers set the pace for their distributors, dealers and salesmen, and through them, for the public. Looking facts in the face compels us to recognize that such a condition no longer prevails. It is now up to the distributors, merchants and salesmen to set the pace for manufacturers.

### What Future for the Salesman?

No longer can refrigerator salesmen receive an adequate return for their sales ability when the only tool for accomplishment is imitative merchandise . . . refrigerators so much the same in design, style and utility, that except for a few superficial mechanical contrasts, they are alike as peas in a pod.

In the merchandising division of refrigeration, the sales unit today, generously estimated, does not exceed \$200.00. The average commission to salesmen is approximately 10%. The measure of a reasonably good retail salesman is in the neighborhood of fifty sales per year.

*This industry has indeed come to a sorry pass when a man gifted with personality and sales ability has the bright hope of a glorious future tuned to a financial measuring stick of \$20.00 per week earnings. Can one blame the competent salesman, therefore, when he demands a revival of sound principles which will lift him above such conditions?*

When competent salesmen are successful and operate on a basis of adequate returns for their ability, the merchant and distributor if granted proportionate profits, can also be successful. On the other hand, when margins are cut so close that the distributor is placed "in the red" when he gives an adequate margin to the dealer, and the dealer is placed "in the red" when he gives an adequate return to his salesmen, soundness cannot prevail.

Let those in the trade gather the impression that these comments are made for the sheer purpose of building our own position through the use of destructive criticism, let us mention that these are facts not of our making but facts which will be recognized instantly by every experienced man associated with the industry.

If constructive results for the trade are to be accomplished, they can be attained only by ruthlessly exposing facts as they exist. The continued hushing of these menacing conditions will bring more destruction than their exposure provided the exposure is accompanied with a constructive answer.

### Our Company's Answer To The Challenge of Progress

Our company has a constructive answer. We offer it both in the nature

of a prophecy and as a guide to those who have the vision to follow. This answer should be self-evident to those who wish to make profits for 1933—the abolishment of price merchandising and a return to specialty selling with a refrigerator built to deliver sound values to the householder beyond those offered by price competitors.

The price merchandise now on the market has been engineered for temperatures slightly below 50°. This is inadequate. Sound engineering and sound merchandising call for a product engineered for 40° temperature and a product which will maintain this temperature with reasonable accuracy without the use of manual controls or makeshift devices. This is one of the steps ahead already taken by our company; and if courage is lacking within the industry to make it voluntarily, we prophesy that public demand eventually will force it upon other manufacturers.

Another step for household refrigeration, which practically every one in the trade has already taken in relation to commercial refrigeration, is in the offing, viz., proper air conditioning within the food chamber. Proper preservation of food, as food experts and refrigerating engineers well know, is dependent on two factors—temperature and humidity. Why have refrigeration engineers been restrained from bringing forth this great advance for the benefit of household refrigeration?

The public stands today fully educated regarding the need for proper temperatures. They can no longer be kept in ignorance regarding the need for balanced humidity. Therefore, manufacturers must recognize this as an element in the great problem or they will be forced to recognize it by the purchasing public in the near future.

Many manufacturers are now offering as standard to commercial users and purveyors of food stuffs, refrigerating equipment which not only maintains proper temperatures but also maintains correct balance of humidity. *Where is the sincerity which on one hand offers balanced humidity and proper temperatures to the food expert and at the same time sings the siren song of "dry air" to the mere householder?*

Then too, the great household bugaboo of defrosting is becoming more and more a problem to be met by the progressive elements in the industry. It must be met squarely. People in general can be fooled only a short time longer with gadgets and compromises. Commercial refrigerating engineers have met this problem in commercial equipment. Is our company to be the only one to offer this advantage to the householder?

When the public learns that with proper engineering, frozen desserts can be made in the home within the hour, how long will housewives be content with the mere statement that two, three, or four hours represents fast freezing? When it is more generally known that frozen desserts can be made smoothly and with a non-crystalline texture with standard recipes, how long will the public be satisfied with mere price appeal unless the merchandise offered can accomplish similar results?

These features which we have been

discussing must be provided by those manufacturers who desire to keep out of the rut of mere standardization by returning to the more profitable, progressive and safe policies of specialty selling.

### Sound Values Essential In Specialty Selling

*When we emphasize Specialty Selling, we mean sales based on sound values of genuine utility. Tricks of salesmanship, in our estimation, cannot be legitimately included in the kit of the specialty man.*

For instance, psychological appeals based on fear of poison refrigerants can only have momentary gains in the face of the known fact that several million refrigerators are now operating in as many homes without hazard. Other examples come to mind too numerous to mention.

For the further guidance of distributors and dealers, let us mention another factor which looms large on the horizon in its appeal to the public—the so-called "Eye-Appeal." This alone is not sufficient to command the public's confidence, but it is a sales factor which should be recognized by every sound distributor and dealer as well as the manufacturer who is attempting to maintain his position through progress and not through price.

*All of these elements are factors which the officials of our company have recognized in their development program; and these are the factors with which we are setting the pace for the industry. Furthermore, these are the factors which every clear thinking distributor, dealer and salesman will soon be demanding from other manufacturers. Without them, those engaged in the sales end of this industry have nothing to look forward to except a further cheapening of products with proportionate reductions in margins, and a continuation of the unfortunate "chiseling" that shattered profits during the year of 1932.*

The wise and sound specialty minded distributor, dealer and salesman will select for the year 1933 the products of manufacturers who have chosen to follow the avenues of progress and not the false trails of price. Distributors, dealers and salesmen who wish to make real profits (and they can be made) will select merchandise which provides definite, measurable advances from the standpoint of utility in the home, and which therefore can be priced on a basis insuring an adequate return for capital and effort expended.

### Setting The Pace For 1933

The Tricold Refrigerator Corporation now announces for the year 1933 five completely new models, each model embracing every principle discussed, as well as other exclusive features which cannot be covered in this limited space.

Ours, of course, is not the only company in the industry with sufficient capital to accomplish such a step, but after carefully scanning all of the 1933 announcements up to date, at the present writing our company is the only one within the industry which has had the capital plus the biggest essential of all—the courage, to take such a step. It is our hope that for the soundness of the industry others will soon follow.

This is a big industry and it is essentially healthy to have within it a number of companies competing one with the other with the weapons of progress. Such a condition redounds to the benefit of all.

*To that end, we sincerely invite others in the industry not only to equal our product but if possible to surpass it. We have set a pace. We consider our own state of mind will be more easily maintained in a healthy condition if continuously challenged by new progress from other sources.*

As a constructive factor in the industry, we announce a further step in our policy, a step which might well be emulated, viz., a complete disregarding of the price standards set by cheap, inadequately engineered merchandise. In the scrambling competition of strictly imitative merchandise appeal, governed by price mindedness, we will have no part. The prices of our products have been soundly arrived at, based on quality, features and performance. These prices have been carefully gauged to the ability and willingness of the American public to pay. These prices embrace discounts which insure adequate returns for their efforts and capital to those competent men engaged in the sales end of refrigeration.

*Six years of mechanical and industrial research are at an end. The Tricold Refrigerator Corporation boldly makes its bid for leadership, based not on sales cleverness, but based on the creation of fundamentally advanced steps of definite value and utility to the householder; based also on sound business plans and sales leadership, calculated to profit those who accept this leadership. Our refrigerator provides the only specialty available today in the refrigeration field.*

In the race for supremacy founded on quality and progress governed by sound business ethics and recognition of the right of salesmen, merchants and distributors to make an adequate profit, we offer a sincere and friendly challenge to the entire industry.

One question now remains to be answered. What does the year 1933 hold for the distributor, dealer and salesman of refrigeration? 1933 launches a definite division of all forces in refrigeration into two radically opposed camps. One camp of manufacturers, distributors, dealers and salesmen will unfurl the 1933 banner of "Price." The other camp of manufacturers, distributors, dealers and salesmen will gather their forces under the banner of "Quality, Progress and Profits."

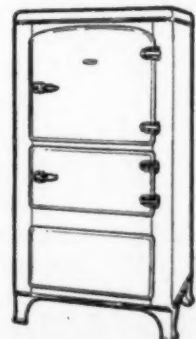
*Choose your banner and choose it well. Upon that choice depends your future and your profit.*

*J. A. Potter*  
President

TRICOLD REFRIGERATOR CORPORATION  
BUFFALO NEW YORK

★ ★ ★

*We are interested in communicating with distributors regarding territory in which we are not already represented.*



*The products of the Tricold Refrigerator Corp. will hereafter be known under the trade name "POTTER Refrigerators."*



## ELECTRIC REFRIGERATION NEWS

The Newspaper of the Industry

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## An Industry Speaks Its Mind

**B**ILLIKEN, the God of Things as They Are, is no deity to the refrigeration industry today. "Change is in the air," we editorialized last fall, and the new products, new designing, and new sales plans which have been developed and brought out during the last few weeks have more than borne out the prediction. As C. D. Donaven, Norge manufacturing chief, put it at the Norge convention in Muskegon Monday:

"Let's see some new ideas in our business in 1933. Let's make it a 'change' year."

To great numbers of people in the industry 1932 was a prolonged headache. Members of the industry didn't like the direction it was taking, but felt they had to follow the leaders. Grumbling was the order of the day.

Now that the new year has arrived, the attitude of many manufacturers has changed. They think they have the situation all figured out, and have revamped their policies and products to match their revised thinking. More than that, they think the rest of the industry should receive the benefit of their ideas. In substantiation of this point, witness the advertising in this issue of ELECTRIC REFRIGERATION NEWS.

R. E. Olds, famous automobile manufacturer and new head of Kold-Hold, addresses "An Open Letter of Great Import to the Entire Refrigeration Industry" on page 3. Mayflower's advertisement on page 4 has the headline, "RUINED . . . by Prices and Discounts," and tells why "hundreds of electric refrigeration dealers have been wiped out in the past year."

Dry-Zero has been running editorialized copy in its advertisements for some time. Title for this week's editorial is "Take the Bull by the Horns." Preceding Dry-Zero advertisement was headed, "Don't Get the Price Bear by the Tail." For an ensuing advertisement (if we may presume to be somewhat facetious about so strong and salient a series of copy ideas) we'd like to suggest, "Beard the Lion in His Den."

A double-page spread in the center of this issue (pages 6 and 7) is occupied by "A Declaration of Position, Policy, Product," by the Tricold Refrigerator Corp., and signed by President T. Irving Potter. This two-page message to the industry is referred to by Mr. Potter's associates and by his advertising agency as his "sermon on the mount." It is undoubtedly the nearest thing to a combined constitution, articles of faith, and party platform for the industry that this paper has ever run, and as such will undoubtedly attract the attention it deserves.

G. M. Johnston, astute president of Universal Cooler, continues his presentation of sound business principles to the industry on page 9. This latest installment of his interesting advertising series is titled, "Regarding LOW PRICES," and is another notable exhibit of his straight thinking and clear expression of policy.

Another demonstration of the fact that the industry's chief executives are dissatisfied with present conditions and—what is more important—are thinking their way out of the muddle may be found in the Jan. 4 issue of ELECTRIC REFRIG-

ERATION NEWS. That issue contained one of the most remarkable collections of clear-cut, straight-forward solutions of leading executives to an industry's most pressing problems ever presented by any publication. It will pay you to go back and read those letters again.

All in all, these signs are highly encouraging. Dissatisfaction generally leads to improvement. And plenty of hard thinking is perhaps the best thing that could happen to the refrigeration industry today.

## A Significant Step

**C**HLOROFORMED by its own leaders, the National Electric Light Association was buried without ceremony last week-end. Although there was no vote taken, the question was not submitted to the huge N.E.L.A. membership, and the new officers were apparently self-elected, the Edison Electric Institute was immediately created to supplant the N.E.L.A.

Full significance of this move will probably not be realized. Some will say that simply marks the passing of Samuel Insull and his interests from the public utilities picture. Others will point out that the suspected antagonistic tendencies of Franklin D. Roosevelt, president-elect of the United States, have likely indicated that a new deal, a new front, was necessary.

Before guessing that the Edison Electric Institute is simply the old N.E.L.A. with a new title and a more pious expression, one should study the E.E.I. constitution, which is printed in full on page 4 of this issue. Note, for instance, these three successive paragraphs:

"Sec. 5. The membership committee, subject to the approval of the board of trustees and in accordance with resolutions which such board may from time to time adopt, shall have jurisdiction and authority to consider and investigate the business practices of any company member and to expel, suspend, or take any other disciplinary action against any member guilty of a violation of proper or ethical business practices, or for failure to furnish information as required herein. Companies by virtue of becoming members of this institute shall be deemed to have consented to the right of the institute to impose such disciplinary action.

"Article IV. Business Principles—Sec. 1. The company members shall from time to time and not less than annually publish financial statements, including balance sheets showing gross and net income, operating expenses and surplus accounts, which statements shall be certified to by independent firms of certified public accountants who shall have audited the books of the company.

"Sec. 2. All statements and data furnished to consumers, stock exchanges, and stockholders; all information designed for public dissemination and all reports to governmental authorities shall be accurate and clearly indicate their source."

This constitution, as you can see, has "teeth." It has police power over its own members, who must make definite commitments to follow the principles established in the constitution. Its officers have the right to investigate the practices of member companies, and to report their findings.

Financial statements and information on the operation of the business is to be made open, above-board, and public.

Although the new organization will effect economies in several directions, many of its fundamental services will be continued. The Electric Refrigeration Bureau, for instance may continue to carry out its program of promotion of electric refrigeration sales as if nothing had happened.

From several standpoints, the aims and purposes of the new organization are most commendable. Apparently leaders of the electric power industry have determined to regulate themselves before the government decides to do it.

Especially praiseworthy seems the new set-up on publicity. Things formerly concealed are to be brought out into the light. Facts and truth are to replace subtle propaganda in the new scheme of things. And if the new operation of the Edison Electric Institute is as honest, healthy, and sound as its foundation policies, the nation's public utility system should gain greatly increased public confidence.

## LETTERS

### Answering Mr. Quinn

Monroeville, Ind.  
 Jan. 6, 1933.

Editor:

Just a few lines to take exceptions to the remarks of Mr. Quinn of G. E. concerning the attitude of your paper toward the various manufacturers.

I do not think he shows the right spirit when he says the situation favors the one who has the means.

He also left considerable room for speculation on just what a quality refrigerator was.

He also did not mention the inconvenience of long-term guarantees to dealers.

What about the G. E. policy at the time mentioned by Mr. Quinn. Did not he try to brow beat and overawe the public into believing the G. E. was the only refrigerator that could be sold.

My own personal opinion is that the G. E. thought they were all set to monopolize the refrigerator business as they have done in numerous other lines but the initiative of other manufacturers was terribly underestimated and it is a plain case of a sore head on Mr. Quinn's part.

J. K. MARQUARDT.

### Interesting

Copeland Products, Inc.  
 Mt. Clemens, Mich.

Jan. 12, 1933.

Editor:

I must say it was very interesting to read the contributions of the industry executives that you gathered together in the Jan. 4 issue of ELECTRIC REFRIGERATION NEWS.

WILLIAM ROBERT WILSON,  
 President.

### Still Hopeful

Uniflow Mfg. Co.  
 Erie Pa.

Jan. 10, 1933.

Editor:

After reading the various executive's comments, I still believe things are quite hopeful, but its apparent that the majority do not look for much improvement, if any, over 1932. The really sad part of it is, that what was once a profitable industry seems to have, in the main, slipped into an unprofitable one, as one may judge by various financial reports.

If good sense will predominate in the industry in 1933, it should be fairly profitable. It may be a little too early to expect that.

I don't know of anything you could have done better for the thinking in the industry than the compilation of these various opinions. You are to be congratulated on keeping abreast of the times, and especially the refrigeration industry.

C. A. KUEBLER,  
 President.

### Meaty Information

Electric Refrigeration Bureau.  
 811 Electric Bldg., Omaha

Jan. 11, 1933.

Editor:

The edition of the ELECTRIC REFRIGERATION NEWS of Jan. 4 carried a lot of meaty and helpful information. I was very much interested in reading many of the splendid statements which were contained in that edition.

J. E. DAVIDSON.

### Technocracy Again

Florence E. Weigle  
 Attorney at Law  
 1509 Telephone Bldg., St. Louis

Jan. 14, 1933.

Editor:

I was much interested in your article, or rather collection of articles, on technocracy which appeared, I think, in your last week's issue (Jan. 4). It was lying on my desk when one of the men in the office picked it up to read on the street car on his way to keep an appointment.

Inasmuch as I had not finished reading it, I should like very much to procure another copy, if possible, and shall be glad to pay any charge for it.

F. E. WEIGLE.

### Technocriticism

Leonard Refrigerator Co.  
 14260 Plymouth Rd., Detroit

Jan. 12, 1933.

Editor:

The tidal wave of "technocriticism" pervading practically all publications, including yours, brings me the realization that I have been so busy trying to sell another Leonard that the cause of all this uproar completely escaped my attention.

I noted that Kettering, momentarily at least, gave over his searchings to find out "what people are going to want when they get done wanting what they now want, to 'bean' them with well chosen adjectives."

And my good friend Willard French marshalled an array of "Big Bertha" statistics from his well-known library and not only blew them out of the water, but left them higher and drier

than Mr. Noah's big passenger boat found itself 50 years after the flood.

I don't know what it's all about, but gather that somebody or other has provided a new topic of conversation to take the place of the depression—and so enable us to while away the long evenings of this "the winter of our discontent" with some ghost stories like little Orphan Annie used to tell about.

It occurs to me that if we could have enough of such subjects, we could keep so busy putting words together, row upon row, that we would forget all about the depression; and the first thing we knew the birds would be singing, green grass growing all around, and good times would be here again.

So I would suggest that you start a column of topics, exercising your well known ingenuity in originating weird things to talk about. And, with my usual disposition to be helpful, I would further suggest that we start with a few simple, well known topics. For instance, let's discuss "How far is up" (Note: We'll start our argument right here, Bert. We think that question should be phrased: "How high is up.") —Editor)—let's seek to determine the priority of the hen or the hen fruit—and while this might possibly not pass your strict censorship, think of the possibilities of a discussion as to the delicacy and biological inexactitude of the conversation between the "little red rooster and the little black hen."

George, you do it.

A. M. TAYLOR,  
 Merchandising director.

### Technocracy Yet

Baldwin-Southwark Corp.  
 Philadelphia

Jan. 10, 1933.

Editor:

Your column of Jan. 4 with comments about technocracy is very timely and interesting. It is all very well for technocrats to tell us that everything is wrong with industry, economics, and finance, but they should give us an idea as to how we can improve conditions.

In the past we have had steam, electrification, and automotive transportation to bring us out of the "doldrums" into industrial activity, compensating for the reduction of man power occasioned by modern machinery.

We now have aviation, refrigeration and air conditioning, to provide us with new industrial impetus. The first two have enjoyed activity even during the depression, and we firmly believe that air conditioning is just getting started in a huge market.

The next few years should see air conditioning paralleling refrigeration in the home, office, store, and railroad, at a price within the reach of the average man.

G. S. McKEE,  
 Production engineer.

### 'Eddy' Refrigeration

George F. Eddy  
 111 Summer St., Boston

Jan. 3, 1933.

Editor:

I notice in your issue of Dec. 28 the name of D. Eddy & Sons Co. included in the list of ex-manufacturers of household electric refrigerators.

Yes, this company has gone out of business, but it is now conducted under my name and we have just brought out our new electric, as you will notice by the enclosed folder.

We are having very great success in this territory where "Eddy" is a household name in refrigeration, and we hope in time to cover a large part of the Eastern seaboard at least. Thought possibly you might like this information, therefore pleased to give it to you.

GEORGE F. EDDY.

### Specifications

Westinghouse Electric & Mfg. Co.  
 200 East Fifth St., Mansfield, Ohio

Jan. 13, 1933.

Editor:

In your issue of June 29, 1932, you published a very comprehensive series of charts showing specifications of all popular electric refrigerators. Do you contemplate revising these charts some time in the near future, and at what date?

If this is not too late a date to express appreciation of this work on your part, we wish to tell you that it has proved to be extremely useful.

LOWELL E. BOURNS,  
 Refrigeration sales division.

### Business Reverses

Ludwig Hommel & Co.  
 (Norge Distributor)  
 Pittsburgh

Jan. 7, 1933.

Editor:

I am pleased to enclose a copy of a circular letter and mimeograph copy of a portion of your editorial. Thank you for your permission to send your editorial entitled "Post Christmas Selling" published in the Dec. 21 issue of ELECTRIC REFRIGERATION NEWS to our dealers. We stated that it was copied from your publication.

There is really very little news except that we are all hoping that 1933 will be a great improvement over 1932. I heard a very good joke, namely one business man wishing another that he may have business reverses in 1933.

L. HOMMEL.



## AIR CONDITIONING

### ENGINEER GIVES DATA ON OPERATING COSTS

By Elston D. Herron

DETROIT—Speaking on "Summer Cooling" at a meeting of the Michigan chapter of the American Society of Heating and Ventilating Engineers on Jan. 10, S. S. Sanford, sales engineer of the Detroit Edison Co., discussed results obtained from several air-cooling installations made by his company last summer, and presented installation and operating cost data for several types of cooling systems.

Mr. Sanford first gave details of the ice-cooling system installed last summer in a Birmingham (Mich.) residence, where a 17,000-cu. ft. space was cooled by ice water pumped through cooling surface installed in the duct of a forced circulation warm air heating system.

Indoor residence temperatures during the summer season are always lower than the temperature outdoors during the day, he said, but during the night, outdoor temperatures are generally lower than those within a home.

#### Circulate Fresh Air

Because this is true, it was frequently possible last summer to cool the Birmingham home at night merely by circulating fresh air brought into the house through a damper, Mr. Sanford said.

He emphasized the point that in residence cooling, operating costs may be kept at a minimum by using the cooling system only when there is actual need for lower temperatures in the home.

In Birmingham, it was found that on some of the summer's warmest days, no cooling was required in the home until noon, and that on the very hottest days, it was not necessary to lower the residence temperature as much as on cooler days.

By way of explaining this point, Mr. Sanford said, "In other words, a com-

water pumped through fin tube coils in air ducts. Complete description of this system was published in the Nov. 2, 1932, *Engineering Section* of the News.

With an average daily cooling load of 17.1 tons of refrigeration in this location, it was found that five tons of ice was the maximum quantity during any one day during the summer, and that three tons was the average daily consumption of the system, Mr. Sanford reported.

Operation of the Farmer St. system during June, July, August, and the first half of September required 360 tons of ice, he said.

Next described was the installation at the company's Port Huron (Mich.) office, which in type of construction and method of operation is similar to the system at the Farmer St. building.

Average cooling load at the Port Huron office was estimated to be about the same as that of the Farmer St. space, but the system at the former office required only 248 tons of ice during the summer, as compared with Farmer St.'s 360 tons, as the amount of electric light load and human traffic there was much less than at Farmer St.

#### Thermostats Control Water

In each of these ice-cooling systems, said Mr. Sanford, thermostats were used to control the circulating water valve, which regulated the water flow through the coils to create an indoor temperature in proper proportion to the outdoor temperature.

Manually adjusted thermostats were first used, but it was later found that automatic instruments were more satisfactory.

The speaker next described the cooling system at the company's office in Detroit's General Motors building, where eight Frigidaire cabinet air conditioners, served by three 3-hp. condensing units, were used.

Current consumption of this system from May 10 to Sept. 15 was 3,520 kwh., according to the Detroit Edison man.

At the utility's Ann Arbor office, said Mr. Sanford, a 17-ton CO<sub>2</sub> compressor, driven by a 25-hp. motor was used for cooling purposes. Average hourly

the same as those already listed, a system using mechanical cooling cabinets would cost 18.6 cents per hour to operate, Mr. Sanford said. Here, of course, installation of ventilating ducts is not necessary.

Setting the average charge for steam at 85 cents per 1,000 lbs., with electricity and water rates the same as above, a steam ejector system operating at 30 lbs. pressure would have an hourly operating cost of 26.4 cents. A system operating at 12 lbs. pressure would cost 31.2 cents per hour for operation.

A table listing these estimates of hourly operating costs appears on this page.

Preceding Mr. Sanford's address, it was decided by vote of the chapter that J. H. Walker, Detroit Edison's superintendent in charge of central heating, shall be the section's official representative at the national A. S. H. V. E. convention to be held Jan. 23-25 in Cincinnati. Herbert Pates was chosen as alternate.

February meeting of the Michigan chapter will be held at the Hotel Prince Edward, Windsor, Canada.

### DETROIT FIRM TO BUILD STALEY DRAFT REGULATOR

DETROIT—The Automatic Humidifier Sales Co. here, distributor of automatic humidifiers and heat controls, has taken over the manufacture and distribution of the Staley automatic draft regulator, formerly made at Plano, Ill., according to K. M. Schaefer, president.

"In adding draft regulators to our line of humidifiers and heat controls," states Mr. Schaefer, "we will be able to control more efficiently and assist the merchandising efforts of our dealers on small unit sales."

"The aggregate sales possibilities on our line now amounts to approximately \$56 when the dealer installs all three of our products."

### Air Conditioners Used in Model House

NEW YORK CITY—*Pictorial Review's* "Wonder House," a model residence built to demonstrate to the average citizen the comforts and efficiencies modern science can supply, is equipped with Frigidaire air-conditioning equipment. The model home is located in the John Wanamaker auditorium in downtown New York City, and was built just as though it were located in a fashionable suburb.

"Wonder House" was built for *Pictorial Review*, woman's magazine, under the direction of its staff architect, Bernhard E. Muller. It is described as a six-room Norman French cottage. Mr. Muller, who has followed all developments affecting the construction or equipping of homes, directed that air conditioning be included when the plans were being drafted.

The Wanamaker souvenir booklet that is given to the thousands of visitors describes the automatic door closers and openers, the dish-washing machine, and other labor-saving devices that electricity makes possible, then says "the practical minded will be especially interested in the modern air-conditioning units that maintain pleasant temperature conditions even in the warmest weather."

The exhibition residence has extraordinary significance, according to J. C. Chambers, manager of Frigidaire's air-conditioning division.

"The fact that *Pictorial Review* air conditioned this residence," he said, "is indicative of the growing interest of homeowners in healthful atmosphere."

"The architect and contractor state that the home may be duplicated almost anywhere in the country for less than \$10,000."

### BARRETT ENGINEERS DESIGN CONDITIONER

CLEVELAND HEIGHTS, Ohio—Barrett Regulation Engineers Co., Inc., has placed on the market the Breco air conditioner, designed to cool, wash, humidify or dehumidify, circulate, and scent the air.

New conditioner is adaptable for use as either a portable or stationary unit, as it is equipped with a two-gallon water container and city water and overflow connections. When connected to the city water supply, the container is not used.

During summer months, the machine may be used as a room cooler by placing 60 lbs. of ice in the space occupied by the water container or by connecting the conditioner to a refrigerating unit, according to J. M. Barrett.

All air passing through the Breco unit comes in contact with a film of water which removes dust and dirt from the air. In the humidification process, the machine releases moisture in a gaseous state, as it does not use sprays, atomizers, revolving discs, or paddle wheels to break the water up into particles.

The unit's fan has two switches, high and low speed. A third switch is connected with an electrical heating element which can be used when a higher evaporation rate is desired, says Mr. Barrett. An automatic humidity control is available at extra cost.

Breco conditioner may be used with 110-volt, 60-cycle, a.c. current, and has a watt input of 30 watts per hour. It is equipped with a two-ounce bottle and wick feed for scenting air passing through the machine. A lever on the machine permits control of the amount of scent placed in the air.

All parts of the unit coming in contact with moisture may be disassembled for cleaning. Outside of the cabinet is finished in walnut grain.

### Operating Costs of 10-Ton Installations

IN CENTS PER HOUR

Average Load, 4½ Tons of Refrigeration

	CO <sub>2</sub>	Mechanical	Steam	Steam
	Ice Compressor	Cabinets	at 30 lbs.	at 12 lbs.
Ice @ \$4 per ton .....	75	..	..	..
Electricity @ 3.5c per kwh. ....	5	22.7	15.1	5
Water @ 40c per 1,000 cu. ft. ....	..	3.5	3.5	7.2
Steam @ 85c per 1,000 lbs. ....	..	..	..	14.2
Total Operating Cost .....	80	26.2	18.6	26.4

fort temperature is not constant. On very hot days, perfect comfort may be had with a residence temperature much higher than that required for cooler days. Indoor comfort temperatures must be determined in relation to outdoor conditions."

Careful regulation of the Birmingham installation, and operation of it only when there was an actual need for cooling, limited its daily ice consumption to 500 to 800 lbs., and its consumption for the entire summer to nine tons. Ice for the summer's operation cost \$45, according to the speaker.

#### Installation Costs \$800

Cost of the Birmingham system was \$800, but Mr. Sanford stated that a similar system could now be installed for as little as \$500, and that central ice-cooling systems for small homes (having five or six rooms) could in many cases be installed for even less.

It was found that the amount of cooling required in the Birmingham house varied proportionately to the number of degree hours above 85°. Mr. Sanford pointed out that this would not be true in a store or restaurant where the amount of cooling needed is not a "weather load."

For approximately \$260, a centrifugal fan can be installed in the attic, to force air from outdoors through ducts leading to the upstairs bedrooms, but this method does not provide for filtering, and does not furnish sufficient cooling for the rooms on nights which are more than moderately warm, the sales engineer averred.

A limited amount of night cooling may be secured, he continued, by installing a propeller-type fan in the attic to bring in air from the outdoors and circulate it through the upstairs halls and rooms by simply directing it through open doors. Cost of such a system is approximately \$100, he estimated.

With this discussion of residence cooling completed, Mr. Sanford took up the subject of commercial cooling, and outlined details of cooling systems installed and operated last summer in several Detroit Edison offices and in a Detroit restaurant.

First commercial installation described was that in the Farmer St. (Detroit) office of the utility, where a 57,000-cu. ft. space was cooled by ice

current consumption of the system was 11.1 kw., he stated.

Cost of these systems was given by Mr. Sanford as follows: Farmer St., \$8,100; Port Huron, \$5,700; General Motors building, \$3,800; and Ann Arbor, \$10,800.

Mr. Sanford reported also on the Carrier steam ejector air-conditioning system in use at Snyder's restaurant in Detroit. This system operates from Detroit Edison's central steam mains at a 30-lb. pressure, and develops 14 tons of refrigeration.

From July 26 to Oct. 5, the steam system, which operates at a vacuum of .3-in. mercury absolute and cools a space of 30,000 cu. ft., consumed 250,000 lbs. of steam.

Managers of the restaurant reported at the close of the summer that the cooling system had been responsible for a 38 per cent increase in business, according to Mr. Sanford.

He then presented his estimates of comparative initial costs of the various types of air-cooling systems for 10-ton refrigeration requirements. The estimated costs include price of the equipment, installation charges, and expense incurred in making ventilating ducts, where necessary.

#### Initial Cost Estimates

Here are the estimates: Ice system, \$3,450; central system using a CO<sub>2</sub> compressor, \$6,300; mechanical cabinet (unit) system, \$5,180; and steam ejector system, \$4,500.

Next figures given were those for the estimated operating costs of these 10-ton systems in cents per hour. It was estimated by Mr. Sanford that these systems would be required to supply an average of 4½ tons of refrigeration.

Figuring that the average cost of ice would be \$4 per ton, and that electricity would be 3.5 cents per kwh., Mr. Sanford estimated that the average hourly operating cost of an ice system would be 80 cents.

Estimating that water's average cost is 40 cents per 1,000 cu. ft. and that electric current charges would be the same as above, he set the average hourly operating cost of a central system using a CO<sub>2</sub> compressor at 26.2 cents.

With water and electricity charges

A FACT THAT 10 YEARS IN THE REFRIG-  
ERATION INDUSTRY HAS TAUGHT US

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BRANTFORD, ONTARIO  
MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD  
AND COMMERCIAL REFRIGERATION EQUIPMENT



## PATENTS

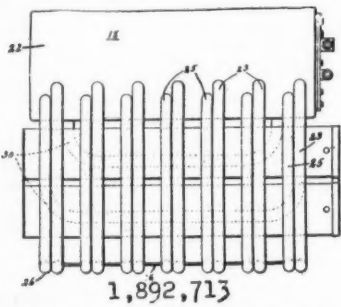
ISSUED JANUARY 3, 1933

1,892,711. REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed May 25, 1925. Serial No. 32,560. 5 Claims. (Cl. 277-46.)

3. A valve device comprising in combination a valve seat, a valve cooperating with said seat and including a leaf spring, a second spring yieldingly holding the valve against the seat, and a thrust member formed of vibration-absorbing material interposed between the springs.

1,892,713. REFRIGERATING APPARATUS. Harold B. Wallis, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Jan. 31, 1927. Serial No. 164,712. 21 Claims. (Cl. 62-126.)

19. A cooling unit for refrigerators comprising a header, a plurality of conduit loops disposed one outside of the other



1,892,713

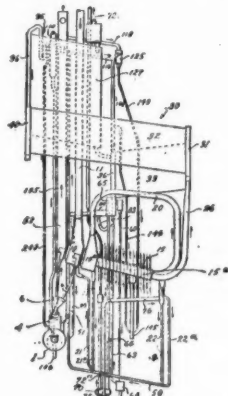
and having their ends connected with said header, said conduit loops being arranged to provide a row of conduits extending longitudinally with respect to the axis of the header to provide at least a portion of a wall of a freezing zone or compartment adapted to receive a receptacle to be cooled,

and refrigerant conveying means communicating with said header and spaced laterally from said row of conduits to provide at least one other wall of said freezing zone or compartment.

1,892,741. REFRIGERANT. Edward E. Sorensen, Detroit, Mich., assignor, by direct and mesne assignments, to Paul F. Scholbe, Detroit, Mich. Filed Aug. 24, 1928. Serial No. 301,938. Renewed June 29, 1931. 3 Claims. (Cl. 252-5.)

1. A new product for use as a refrigerant, comprising nitrous ether and ethyl alcohol.

1,892,821. REFRIGERATION. Eastman A. Weaver, Winchester, Mass., assignor, by mesne assignments, to Stator Refrigeration, Inc., a Corporation of Delaware. Filed Nov. 9, 1929. Serial No. 405,948. Re-



1,892,821

nued Sept. 23, 1932. 18 Claims. (Cl. 62-115.)

1. Apparatus of the class described comprising a propellant circuit including a

boiler and a propellant condenser, a refrigerant circuit including a cooler and a refrigerant condenser, said circuits having a common part in which vaporized propellant causes the circulation of refrigerant through its circuit, means for receiving the condensed propellant from the propellant condenser and lifting the same to a region above the common part of said circuit, said means being connected to a measuring factor, a propellant return pipe connected to said measuring factor and having its lower end connected to the boiler, a purger employing the energy of the lifted propellant to effect the exhaustion of noncondensable gases from the system, said measuring factor being connected to said purger and arranged to shunt a portion of the propellant to said purger.

1,892,822. FLUID PUMPING. Lyman F. Whitney, Boston, Mass., assignor, by mesne assignments, to Stator Refrigeration, Inc., Boston, Mass., a Corporation of Delaware. Filed April 13, 1928. Serial No. 269,712. 29 Claims. (Cl. 62-115.)

1. Apparatus of the class described, comprising two fluid circuits with two portions in common, a propellant in one of said circuits and a pumped fluid in the other circuit, a vaporizer for the propellant, means whereby the vaporized propellant may pump vapor of the other fluid in one of said common parts, and means whereby liquid propellant may pump the other fluid in its liquid phase in another common part of the two circuits.

1,892,869. HEAT EXCHANGE METHOD AND APPARATUS. Daniel F. Comstock, Brookline, Mass., assignor, by mesne assignments, to Stator Refrigeration, Inc., a Corporation of Delaware. Filed June 14, 1927. Serial No. 198,715. Renewed Aug. 23, 1929. 19 Claims. (Cl. 62-115.)

1. In a system of the class described, means for purging the system of non-condensing gases, comprising a duct, liquid circulating in said duct, a capillary tube forming a part of said duct, a pipe joining said tube, said pipe being adapted to supply non-condensing gases to said duct, whereby gas is entrained by the liquid, a vessel, said capillary tube having a fixed outlet continually in connection with the vessel, said vessel containing liquid exposed to the air whereby gas may rise to the surface of the liquid in the vessel and pass into the atmosphere, and an upstanding outlet pipe connected to said vessel and adapted to receive liquid there-

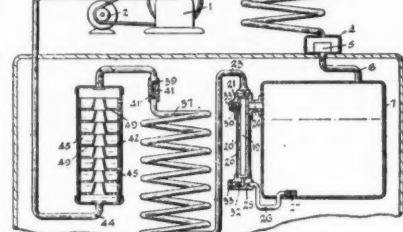
from to form a liquid column balancing liquid pressure in the vessel and the air pressure thereabove, and means for returning liquid from said column to the duct when the column reaches a predetermined height.

1,892,870. FLUID SYSTEM. Daniel F. Comstock, Boston, Mass., assignor to Comstock & Wescott, Inc., Boston, Mass., a Corporation of Massachusetts. Filed Dec. 17, 1930. Serial No. 502,955. 7 Claims. (Cl. 62-115.)

1. Apparatus of the class described comprising a propellant circuit and a refrigerant circuit, a boiler in the former and a cooler in the latter, said circuits having a common part where vaporized propellant causes the refrigerant to circulate, means receiving the propellant from said common part and lifting it to a region above the same, and a return pipe forming part of the propellant circuit and containing a liquid column which receives the propellant thus lifted and returns the same to the boiler.

1,892,874. COMPRESSION TYPE REFRIGERATING SYSTEM. Philip W. Des Roches, Detroit, Mich. Filed Sept. 9, 1927. Serial No. 218,396. 26 Claims. (Cl. 62-115.)

1. In a compression refrigerating system, a compressor, a liquefied refrigerant containing reservoir, a lubricant trap con-



1,892,874

sisting of a liquid retainer for retaining mixtures of the liquefied refrigerant and the lubricant, means for permitting the evaporation of the refrigerant, the retainer having outlets for the continuous introduction of the lubricant into the vapor.

1,892,911. REFRIGERATION APPARATUS. Cyril H. Thomas, Flossmoor, Ill., assignor to Royal Electric Mfg. Co., Chicago, Ill., a Corporation of Illinois. Filed Oct. 28, 1928. Serial No. 315,773. 5 Claims. (Cl. 62-7.)

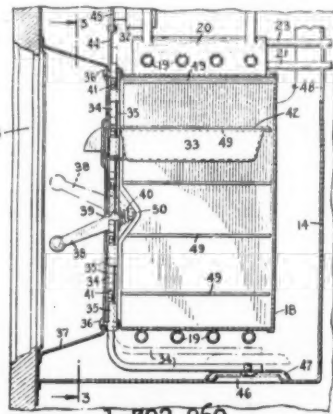
1. In combination with a device to be cooled, a cooling medium, means forming a thermo syphon circulating system for the cooling medium, said system having a portion extending in the device to be cooled and having a bypass, normally inoperative means for circulating the cooling medium, said means being arranged in said bypass, normally inoperative means for cooling a portion of the system, means for operating the cooling means when the temperature of the cooling medium exceeds a predetermined value, and means for operating the circulating means when the temperature in the device exceeds a predetermined maximum.

1,892,941. REFRIGERATING APPARATUS OF THE ABSORPTION TYPE. Percy Charles Frey, Louisville, Ky., assignor to Henry Vogt Machine Co., Louisville, Ky., a Corporation of Kentucky. Filed May 5, 1932. Serial No. 609,485. 6 Claims. (Cl. 62-119.)

1. In an absorption refrigerating apparatus, a method of treating the gas after it leaves the generator, consisting in dehydrating the gas sufficiently to condense a substantial quantity of its moisture content, expanding the condensate resulting therefrom, condensing the dehydrated gas, and passing the gas condensate into heat exchange relation with the expanded moisture condensate.

1,892,960. REFRIGERATION. Henry G. McComb, Chicago, Ill., and William D. Collins, Evansville, Ind., assignors to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Aug. 27, 1930. Serial No. 478,060. 16 Claims. (Cl. 62-116.)

1. In a refrigerating apparatus, an evaporator member, means to supply refrigerant to said evaporator member, means



1,892,960

to withdraw vaporous refrigerant from said evaporator member, normally operable means for controlling the withdrawal of vaporous refrigerant from said evaporator member to control temperature, freezing trays removably positioned adjacent to said evaporator member, and manually operable means to control the withdrawal of vaporous refrigerant from the evaporator member independently of said normally operable means and for simultaneously preventing removal of said freezing trays.

1,893,048. FILTERING MATERIAL. Hans E. Birkholz, Chicago, Ill., assignor, by mesne assignments, to American Air Filter Co., Inc., Louisville, Ky., a Corporation of Delaware. Filed Aug. 10, 1927. Serial No. 211,949. 8 Claims. (Cl. 183-51.)

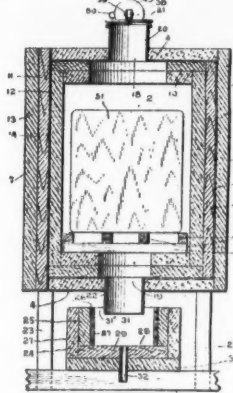
1. A filter medium comprising an integral layer of fibrous material which has the fibres adjacent one surface thereof arranged in greater compactness than those adjacent the opposite surface thereof.

1,893,228. METHOD AND APPARATUS FOR REFRIGERATING. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Co., Flint, Mich., a Corporation of Michigan. Filed April 16, 1931. Serial No. 530,545. 14 Claims. (Cl. 62-91.5.)

1. The method of refrigerating which comprises chilling a primary body of brine by bringing it into heat exchange relation with solid CO<sub>2</sub> circulating the primary body of brine in a cyclic path, effecting heat exchange between the primary body of brine and a secondary body of brine relatively remote from the solid CO<sub>2</sub> and circulating the secondary body of brine in a cyclic path through a relatively remote region to be refrigerated.

1,893,277. APPARATUS FOR CONTROLLING TEMPERATURE. Lewis W. Eggleston, Detroit, Mich., assignor to American Radiator Co., New York, N. Y., a Corporation of New Jersey. Filed March 19, 1930. Serial No. 437,034. 13 Claims. (Cl. 62-91.5.)

1. A device of the character described, comprising an insulated chamber having upper and lower flow openings for the



1,893,277

circulation of convection gas currents through said chamber and adapted to contain a body of refrigerant medium, means to close said upper flow opening, and means at said lower flow opening operable to maintain about said lower flow opening an atmosphere of refrigerated gas whereby

(Continued on Page 11, Column 4)

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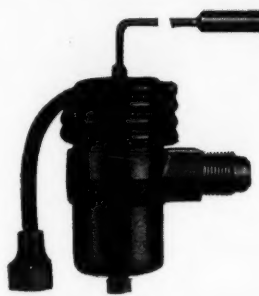
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## BRING YOUR REFRIGERATION DIRECTORY UP TO DATE

THE NEW 120-PAGE SUPPLEMENT to the 1932 Refrigeration Directory and Market Data Book, hitherto available only as a part of the Directory, can now be purchased SEPARATELY. It contains an analysis of current distribution trends; detailed specifications of 354 household models of 48 manufacturers; a month-by-month tabulation of sales during 1932; an air-conditioning directory; etc. Bound in green paper. 24c per copy. Payment in stamps acceptable. Write:

Business News Publishing Co., 550 Maccabees Bldg., Detroit

## QUESTIONS

### Colored Ice Cubes

Query No. 1039 (Distributor, Texas)—"We will appreciate your furnishing us with the names of firms who distribute a product for coloring ice cubes."

"We are particularly anxious to obtain the name of the manufacturer or distributor of 'Kolorized Cube Tablets,' formerly distributed by Young Sales Co., 688 Union Trust Bldg., Cleveland, which is no longer doing business at that address."

### Fogel Refrigerator Co.

Query No. 1040—"Kindly send us the address of the Fogel Refrigerator Co." Answer—519 Bainbridge St., Philadelphia, Pa.

### Current Consumption

Query No. 1041—"What is the approximate daily or monthly amount of electricity required to operate in summer a commercial refrigerator of 275-cu. ft. capacity, used in a butcher shop or similar establishment?"

Answer—Any commercial refrigeration manufacturer can give a reasonably close estimate, but the following additional information about the installation will probably be required: thickness and kind of insulation, outside dimensions of the refrigerator, inside temperature to be maintained, and average outside temperature.

Is the refrigerator to be used only for the storage of pre-cooled meats? Does the butcher sell from a separate display case, or does he remove the meat for each sale direct from the storage refrigerator, requiring that the door be opened for each sale?

Can you give us an idea as to how much the refrigerator is to be used, the number of times per day the door is opened, or the average weight of meat sold from it per week?

### Economy Switch for Farm Plants

Query No. 1042 (Refrigeration Branch Manager, Nebraska)—"Who manufactures the 'Economy Switch' described in your Dec. 28 issue in connection with the article on farm lighting plants?" Answer—Delco Products Corp., 329 E. First St., Dayton, Ohio.

### Beverage Cooler

Query No. 1043 (Engineer, Massachusetts)—"I have a patent on a bulk container for soft drinks which I wish to market. The patent is on a control valve to dispense carbonated or non-carbonated beverages in bulk."

"Can you tell me of a manufacturer with a large sales organization that would be interested in distributing a beverage cooler which is to carry with it a refrigeration unit and box? This cooler will sell to the brewing industry, and the orange, ginger ale, and fruit juice industries."

Answer—Suggest you advertise your proposition in ELECTRIC REFRIGERATION NEWS.

### Dry Ice Household Refrigerators

Query No. 1044 (Jobber, Indianapolis)—"We understand that there is a refrigerator on the market using dry ice or solid carbon dioxide instead of ice. Where can we secure further information about it?"

Answer—International Carbonic Engineering Co., Kennett Square, Pa., is developing the American rights to the "Carba" refrigerator, designed in Europe for use with solid carbon dioxide.

### Ice Cream Packaging Machinery

Query No. 1045 (Refrigeration Supplier, New York City)—"Kindly let us know who makes ice cream brick cutting machines, and fully automatic wrapping machines for square eskimo pies."

### List of Service Companies

Query No. 1046 (Refrigerator Manufacturer, Illinois)—"We are wondering if you have a list of general refrigeration service agencies in various cities throughout the country. If such a list is available, we would appreciate receiving a copy, as occasionally we have an installation or service problem in a city where we do not have an authorized dealer."

Answer—The next issue of ELECTRIC REFRIGERATION NEWS will contain a list of over 800 independent service companies.

### Counter Freezers

Query No. 1047 (Utility, Utah)—"Kindly send us a list of manufacturers of ice cream making equipment. We have a customer here who would like to take over the distribution of such equipment, and would appreciate any help you give us in getting this information."

Answer—Grand Rapids Store Equipment Corp., 1545 Madison Ave., Grand Rapids, Mich.; Mills Novelty Co., 4100 Fullerton Ave., Chicago, Ill.; and Taylor Freezer Corp., Beloit, Wis. A complete list is published in the RE-

## REFRIGERATION DIRECTORY and MARKET DATA BOOK.

### Rotary Compressors

Query No. 1048 (Engineer, Tennessee)—"I am seeking a source of supply for rotary compressors without motors, condensers, or other equipment. I have in mind some manufacturer who built a number of rotary compressors, and for some reason or other decided not to enter the refrigeration field, and now has a stock of compressors available."

"The machine I require will be used to compress air against 35 to 65 lbs. head pressure, and should be capable of pulling vacuums from 12 to 20 in. on steel compressors. Only one size is needed, with the largest displacement possible at 300 to 400 r.p.m."

## PATENTS

(Continued from Page 10, Column 5) to prevent flow of gas into and from said chamber through said lower opening.

1,893,321. COOLING UNIT FOR REFRIGERATING SYSTEMS. Morris F. Booth, Chicago, Ill., assignor to Mullins Mfg. Corp., Salem, Ohio, a Corporation of New York. Filed July 17, 1929. Serial No. 375,843. 14 Claims. (Cl. 21-26.)

1. A cooling unit of the flooded type comprising a header chamber and a plurality of sharp freezing chambers formed substantially from one sheet of metal, the walls of the header chamber consisting of a single thickness and each wall of the sharp freezing chambers being formed of a double thickness of sheet metal to provide a thin wall of refrigerant on top, bottom, and each side of each sharp freezing chamber.

1,893,338. EVAPORATOR FOR REFRIGERATORS. Lawrence A. Philipp, Detroit, Mich., assignor to Kelvinator Corp., Detroit, Mich., a Corporation of Michigan. Filed April 11, 1929. Serial No. 354,320. 8 Claims. (Cl. 62-8.)

1. The combination with a refrigerant compressing mechanism having a low side pressure controller associated therewith of a refrigerant evaporating unit comprising a heat exchange plate for supporting a freezing tray upon the upper surface thereof, and means disposed in thermal contact with the lower surface of the aforesaid plate for controlling the operation of the refrigerant evaporating unit.

1,893,341. EVAPORATOR FOR REFRIGERATORS. Charles C. Spreen, Detroit, Mich., assignor to Kelvinator Corp., Detroit, Mich., a Corporation of Michigan. Filed May 17, 1929. Serial No. 363,727. 6 Claims. (Cl. 62-35.)

1. A refrigerant evaporating unit comprising a metallic freezing tray sleeve, an open top brine tank secured to the bottom of said sleeve, and an evaporating conduit encircling said sleeve and brine tank.

1,893,344. REFRIGERATOR CONDENSING UNIT. George A. Vis, Detroit, Mich., assignor to Kelvinator Corp., Detroit, Mich., a Corporation of Michigan. Filed Jan. 14, 1929. Serial No. 332,298. 4 Claims. (Cl. 62-115.)

1. A support for a refrigeration condensing unit including a compressor, condenser and motive means; comprising an elongated tubular member having a plurality of parallel sections and having its free extremities remote from each other, and means associated with the extremities for joining refrigerant conduits thereto.

1,893,345. REFRIGERATING APPARATUS. Thomas C. Whitehead, Detroit, Mich., assignor, by mesne assignments, to Kelvinator Corp., Detroit, Mich., a Corporation of Michigan. Filed Oct. 14, 1929. Serial No. 399,537. 3 Claims. (Cl. 62-116.)

2. In combination, an ice tray compartment having an open forward end and provided at said end with a marginal laterally extending flange, a front piece for said compartment comprising a plate having an opening receiving the flange aforesaid, the edges of said opening and the edges of said flange being in a common vertical plane and being secured together, and a strip of yieldable material overlapping said adjacent edges and concealing the joint therebetween.

1,893,360. REFRIGERATOR CONTROLLER. Ralph W. Doeg, Detroit, Mich., assignor to Kelvinator Corp., Detroit, Mich., a Corporation of Michigan. Filed July 17, 1930. Serial No. 468,687. 4 Claims. (Cl. 200-83.)

1. A pressure responsive refrigerator control mechanism comprising a substantially closed casing, snap acting switch mechanism within said casing, means for controlling the movement of said switch mechanism comprising a member movable in response to pressure variations, a rod rigidly attached to said member, permanently set spring mechanism opposing movement of the pressure responsive member and rod in one direction, additional spring mechanism also opposing movement of the pressure responsive member in the same direction, and means extending through and manually operable exteriorly of the casing for varying the effectiveness of the second named spring means, both of said spring mechanisms being so constructed and arranged as to oppose movement of the pressure responsive member under all conditions of operation.

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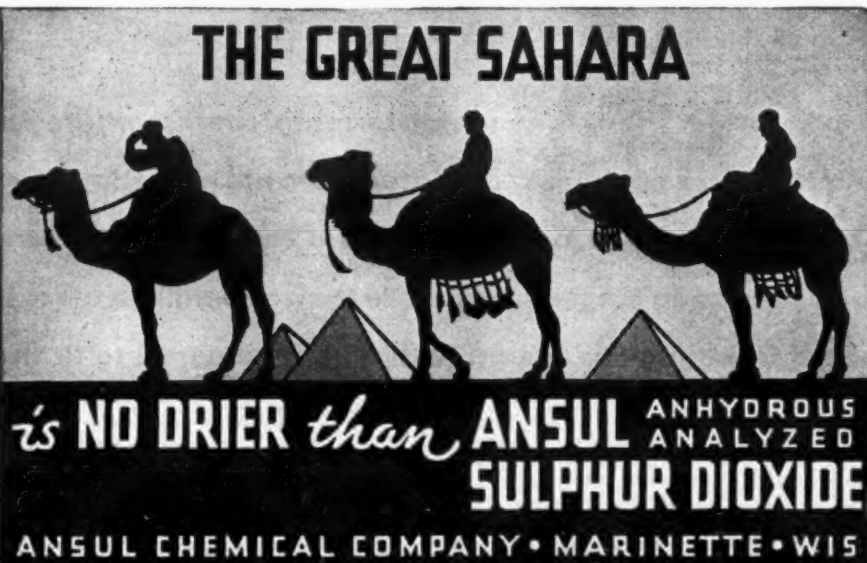
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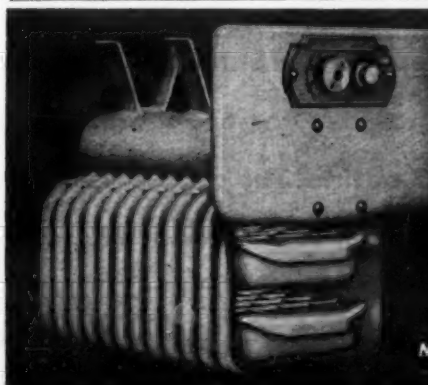
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